Address in Medicine.

Delivered at the Annual Meeting of the British Medical Association held in Bristol in August, 1894.

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A STUDY OF INFLUENZA.

MR. PRESIDENT AND GENTLEMEN,—It is not my intention to ask you to consider to-day any question of medical politics or of medical education, for these are inappropriate to an address in medicine. Nor do I purpose to advance any wide general statements, for these are apt to be vague and wanting in practical utility; nor to lay before you the results of any recent work of my own, for that has not been of a nature suitable for our present meeting; but I desire to take up a subject which has of late years largely occupied the attention of the profession, and with regard to which it may be of some service if we can formulate views and conclusions fitted to throw light upon the nature of the process of influenza, its prevention and cure. The recent epidemics have been studied with a care hitherto unequalled, and by methods which the profession did not formerly possess; and I wish to consider what we have really learned with regard to the nature and treatment of this great morbid process. It is scarcely necessary to demonstrate nowadays to an audience such as this that influenza is no new epidemic. I shall cite evidence of only two unmistakable outbreaks—one occurring on the Continent and one in our own island. We learn from many sources that an epidemic broke out in Italy, and particularly in Florence, during the months of January and February, 1387, and that this epidemic spread so rapidly that by Lent it prevailed in Strassburg, throughout France, and in Southern and Northern Germany. Buoninsegni in his Florentine history speaks of it as "una influenza" which affected people with cold and fever, and was fatal to many, especially the old. Velascus of Tharanta remarked that young children enjoyed a comparative immunity from its attacks; and Jacob von Königshofen tells us that in the Strassburg district it was marked by cough and running of the nose, that it attacked nine out of every ten of the population, and that it was fatal mostly to old people who were otherwise weak. No one can look into the records of the period without being satisfied that that outbreak was an epidemic of influenza. For the instance which I select as proving its existence in our own island we are indebted mainly to a shrewd observer who was not a medical man, but a diplomatist, and who represented Queen Elizabeth at the court of Mary Queen of Scots. This Thomas Randolph, or Randall, was keen-witted enough to be worthy of working along with Cecil and the other great Ministers of Elizabeth, and one of his letters, dated from Edinburgh in 1562, contains the following passage: "May it please your honour, immediately upon the Queen's arrival here she fell acquainted with a new disease which is common in this town, called here 'the New Acquaintance,' which passed through her whole court, neither sparing lord, lady, nor damoiselle, not so much as either French or English. It is a pain in their heads that have it, and a soreness in their stomach, with a great cough that remains with some longer with others shorter time, as it findeth apt bodies for the nature of the disease. The Queen kept her bed six days; there was no appearance of danger, nor many that die of the disease, except some old folks. My Lord of Murray is now presently in it; the Lord of Liddington hath had it, and I am ashamed to say that I have been free of it, seeing it seeketh acquaintance at all men's hands. By reason of these occasions I have not seen her Grace since she came to town." It can scarcely be doubted that this disease was influenza. Its sudden appearance, its epidemic character, its clinical features, its degree of fatality, all correspond to what we recognise as characteristic of that malady. And our ancestors gave it a name as suggestive as the more modern ones "influenza" and "*la grippe*," for they speak of it as the "new acquaintance." This is the earliest definite account that I have met with of its occurrence in our island, but since that time it has reappeared at longer or shorter intervals, each successive epidemic exhibiting essentially the same features as those with which we have of late been only too familiar.

I must say a few words regarding the clinical history of the disease in order that we may understand one another clearly when we come to consider other more obscure points. I should not think of speaking in detail of matters familiar to every practitioner in regard to the ordinary features of the malady—its general characteristics of pains in the head, the back, the limbs; the sense of debility of body and mind which rendered exertion impossible; the degree of fever, and the long-continued weakness. Nor of the three great groups which we all come to recognise—that affecting chiefly the respiratory tract, that involving for the most part the gastro-intestinal mucous membrane, and that in which the aches and pains and nervous symptoms predominated over all others. But I cannot pass quite so lightly over the complications and sequelæ which arose in so many cases, and shall endeavour to sketch in bold outline some of my own experiences in regard to the involvement of the different systems or the body. In doing so I hope that I shall recall experiences that many of you have had, and I have no doubt that many present could supplement and extend what I say by describing cases which have fallen under their observation. The alimentary system was affected in a great variety of ways. Apart from the disturbance attending the acute attack or primary disease many patients suffered for weeks or months afterwards from various digestive troubles. As an example I may refer to the case of a gentleman from Forfarshire who consulted me on several occasions. He seems to have a special proclivity to influenza, for he has had three attacks since 1890. The first was sharp enough, but left no serious effect behind. The second, which occurred in 1892, was much more formidable. During the primary stage the temperature reached 105° F., and he suffered great depression. Having risen from bed and gone out too soon he suffered a relapse, with sharp bronchial catarrh and severe cough. When I saw him first these conditions persisted, but his chief complaint was of gastric irritation. Every morning, whether he remained in bed or got up, whether he took food or abstained from it, he was taken at about the same hour with a chilliness, often amounting to rigor, followed by sickness and violent retching. He got no peace until the stomach was emptied of any food he might have taken, as well as of a large quantity of glairy mucus, sometimes mingled with bile. During the rest of the day he was comparatively free of the sickness, and able to go about in a feeble fashion. He was often chilly, and when he went to bed his feet and legs used to be cold and clammy in a way that they had never been before, and towards morning he would break out into copious perspiration like that attending advanced phthisis. The illness lasted for many weeks and yielded only very gradually to treatment, but at last recovery was quite satisfactory, and during the past winter he had another attack of influenza which left no sequel behind it. Now, no one who witnessed the facts could doubt that the gastric symptoms were due to influenza, but it was not easy to say whether the gastric mucous membrane was the structure primarily affected, or whether the nerves supplying the stomach were at fault. That an inflammatory condition existed was clear enough, but in my judgment it was equally apparent that the nervous system had an imperfect share in the process, considering that the phenomena occurred periodically and with such regularity. I do not mean that organic change in the branches of the vagus or at its roots necessarily existed, but that their functions were undoubtedly involved. The hæmopoietic system exhibited innumerable changes. Ordinary anæmia was commonly observed, and forms so severe as to warrant their being called pernicious now and then occurred. But among the most important of the blood changes which I noticed was pupura hæmorrhagica, of which I had an example under my care in the Royal Infirmary. I sifted very closely the evidence which connected the process with influenza, and was quite satisfied of its reliability. The patient, a man aged thirty-one, had been suffering from chronic phthisis when he had his attack. He had so far recovered as to be able to go out for a short walk, but on coming home from his first attempt of that kind he felt uneasiness in one leg, and this was followed by swelling, evidently the result of thrombosis. The first pupuric blotches appeared in the area whose vein was blocked, but soon afterwards in other parts as well. Successive crops of hæmorrhages appeared under the skin, attended by the other

symptoms peculiar to the disease. But gradually he improved, and about a month after admission he seemed convalescent, the hæmorrhages having passed off, and the thrombosis disappeared. The only anxiety was for the condition of the lungs, which became more affected, the sputum containing tubercle bacilli, and fever also increasing, especially towards evening. Suddenly a fresh eruption of purpuric spots appeared, and along with them hæmorrhages from various mucous membranes, and particularly from the lungs. It was followed by a speedily fatal result. It is difficult to say how these blood changes are brought about, but we must keep in view the fact that at least one of the structures standing in important relations to the blood is affected—namely, the spleen; that it is often enlarged in influenza as it is in so many fevers, and it is not unreasonable to suppose that the bone marrow and other structures may be similarly involved, and that the blood changes may be due to these. But apart from structural alterations of the blood, chemical changes have been frequently observed to result from influenza. Perhaps the most typical is the occurrence of gout during convalescence from an attack. A patient of gouty constitution, who had perhaps suffered repeated attacks of the disease, was taken with influenza, and, without other cause that could be ascertained, suffered a fresh paroxysm of gout. We know that anything which causes debility may be followed by like effect in such a patient, and cannot wonder that a malady so debilitating as influenza should give rise to it. Perhaps in connexion with the blood changes I may also refer to diabetes mellitus. It has been found to stand related to the influenza process in two ways—for those who have been suffering from diabetes and have taken influenza showed a proclivity to diabetic coma, and in a considerable number of cases the diabetic process itself took origin just after influenza.

On looking over the records of my hospital practice I find at least three cases in which, so far as one can judge, the influenza induced diabetes. We can understand that changes in the central nervous system may afford the explanation of this clinical fact, or it may be that organs such as the liver or the pancreas, which stand related to the transformation of sugar in the economy, may be directly affected by the process. The circulatory system exhibited some of the most interesting post-influenzal phenomena. They presented considerable variety. I select as my first illustration the case of a member of our own profession, a man aged fifty-four, who during the winter of 1891 passed through an attack of influenza. The illness was so slight that he was never laid aside from his ordinary avocations, but he complained of catarrh, with aching of the limbs and the head, and great debility. During the weeks which followed he continued feeble and less fit for exertion than usual, but was able to perform all his professional duties, which were both varied and exacting. At length one evening he was startled to find himself very weak, and to notice that his heart's action was slow and irregular. Notwithstanding the most urgent advice he persisted in attending to his duties the following day, and after some hours of laborious work he was compelled to give in, feeling absolutely unfit for further effort. I had the opportunity of feeling his pulse then, and of watching its state occasionally during the subsequent weeks. It was sometimes as low as 36, rarely above 40 in the minute, and there was a curious irregularity as if there were occasional abortive beats, and then a slowly delivered but not weak or small one. The heart, which was somewhat enfeebled from old rheumatic disease, but not unequal to its ordinary duties, dilated rapidly, and well-marked murmurs developed in the mitral and tricuspid areas. There was even some suspicion of aortic incompetence. There was no cardiac pain and no faintness, but the sensation of delayed action of the heart, with abortive attempts at systole, and the full bound of the organ when ventricular systole did take place, produced a very unpleasant sensation. There was marked dyspnœa on exertion, but never a trace of pulmonary œdema or of swelling about the feet. During several weeks the heart showed very little improvement, only by slow degrees did it come up to fifty in the minute and act with greater regularity. Debility of the muscles generally attended that of the heart, and the patient, who had been an active man, described as quite a new sensation his reluctance to descend three or four steps from the dread of the effort of ascending them again. At the same time, so far as could be made out, the mental action and the function of the body generally were little affected. Only at night his legs and feet became deadly cold, and towards morning he was troubled with violent perspirations and was often obliged to change his nightdress more than once. These perspirations seemed in one sense to relieve, in another to exhaust, the patient. Under rest and careful treatment he gradually improved, and at the present time he is equal to all his old activity, both of mind and body. It was clear enough that at any time during the weeks he was at his worst a fatal result might easily have been induced, either by bodily effort, nervous shock, or mental excitement. The question is, What was the precise condition of the heart of the patient, and how was it to be explained? Was the fault situated in the muscular fibre of the organ? was it in the motor nerves? was it in the inhibitory nerves? I believe that it was not in the muscle itself, because the action of the ventricles, although delayed, was vigorous and powerful when it did take place. It is not probable that the fault lay with the inhibitory nerves, because such changes as existed must have been due to an exaggeration rather than a diminution of inhibitory influence, and a diminution is a much more likely result than an exaggeration of function. Still, one might argue in favour of that view to a certain extent. But it seems most likely that the real cause was a diminution of the action of the motor nerves whereby the rhythm became irregular and the movements slow and delayed. But there were many cases during and after the influenza epidemic which showed rapid rather than slow cardiac action. I might cite instances of this kind with pulses ranging from 80 to above 100 in the minute, with more or less irregularity of rhythm and without any marked tokens of backward pressure. Cases of that kind I was inclined to ascribe to morbid action on the part of the inhibitory structures, the inhibition being diminished and the rate of action increased. If there were time I might narrate very interesting cases in which the heart showed rapid and irregular action, with marked dropsy, as a result of increased backward pressure from failure of the heart's action. In some of these cases it is probable that degenerative changes occurred in the muscular fibre of the organ. And, lastly, I might describe certain cases in which a fatal result occurred from sudden failure of the heart's action, sometimes with, and sometimes without, fatty degeneration of the muscular fibre. I might dwell also upon the frequency of pericarditis, and the occasional occurrence of endocarditis, and perhaps of myocarditis also. The respiratory system suffered changes more frequently in connexion with influenza than did any other organs of the body. We all noticed cases in which bronchitis persisted for a longer or shorter time. In some of these, no doubt, that inflammation was of a specific influenzal character, although so much prolonged, the bacilli being demonstrable in the sputum all the time. In others it was perhaps of a simple non-specific kind. I have seen the influenza process stand strikingly related to bronchitic asthma. In illustration of this I may refer to the case of a gentleman resident in the south of England, who happened to be in Edinburgh lately, and who consulted me as to the state of his chest. I found that, although hereditarily predisposed to asthma, he never had a serious attack until he was nearly forty years of age. He then had influenza, and it was followed by so severe and prolonged an attack of bronchitic asthma that he was obliged to winter in the south of France, and only gradually did he recover, so as to be able to stand, as he had formerly done, the severity of an English winter. What was the explanation of this aggravation of this nervous malady? Probably it was to be found partly in the increased severity of the bronchitic irritation due to the local effects of the influenza process, but partly also to disturbance of the nerves supplying the bronchial tubes, which stand so definitely related to asthma. Pneumonia was by far the most formidable sequel of influenza, and displays, according to my experience, marked differences of type from the normal course of the disease. Moreover, its fatality appeared to vary in the recent epidemics. In 1890 I lost case after case in my wards, and found treatment of little value, while in two later outbreaks the deaths were extremely few. Ordinarily I am accustomed to receive into my department in the Royal Infirmary of Edinburgh from 6 to 12 cases of pneumonia in the year. In 1890 I admitted 14; in 1891, 38; in 1892, 27; and in 1893 28 cases. Every variety of pneumonia presented itself, but the catarrhal was most frequent, and that of an acute and peculiar type. The croupous form was also frequent, and pleurisy and empyema accompanied it in a considerable number of instances. In explanation of

these complications we may assume that the catarrhal pneumonias were due to extension of inflammation from the bronchi to the ultimate air cells. In the cases of croupous pneumonia the organisms of Friedländer and Fraenkel were abundant enough, and streptococci were found in the empyema cases. There was no reason to suppose that these organisms were more abundant or more active during the influenza epidemic. The difference lay in the greater susceptibility to the action of these organisms induced by the influenza process. The relationships between influenza and phthisis pulmonalis were equally striking and varied. I am satisfied that in not a few instances phthisis originated in an attack of influenza, and frequently phthisical patients, whose condition had been quiescent or scarcely advancing, suddenly developed pronounced symptoms and went on rapidly to a fatal result. The relationship between the two processes seems to depend on the fact that influenza so affects the system as to render it more susceptible of the action of the tubercle bacillus. Among the morbid conditions of the integumentary system which attended upon the process I may mention the critical efflorescence so often observed at the height of the disease, and the desquamation which speedily followed on that inflammatory action; but I must not omit to refer to the tendency to chilliness of the skin, and to copious and exhausting sweating, which often persisted for months after the acute symptoms had passed away. The urinary system was affected in many ways; sometimes there was a mere passing albuminuria, sometimes a formidable hæmaturia or serious inflammation of the kidneys, and in some epidemics, as in one of those recently described in Egypt, such changes were frequent and in a considerable number of instances proved fatal by uræmia. On the other hand, I found some patients exhibit a susceptibility to vesical inflammation. A member of our own profession sat down at a railway station overheated while still suffering from the exhaustion of pneumonia, and in a few hours developed a sharp cystitis which he had never had before, and which lasted for a month or six weeks. The reproductive system also showed manifest changes in both sexes—the functions became greatly impaired. But the nervous system suffered most frequently. In every case of influenza during the acute stage disturbance of that system was pronounced, and nervous sequelæ were extremely common, serious, and persistent. If I had time I should be interested to show in detail how nerves and spinal cord and brain, how membranes and deeper tissues, and how all kinds of function of the system were altered. I should like to speak of the well-marked peripheral neuritis, affecting the hands and feet, which I have seen in some instances of the changes in individual nerves—superficial and visceral—giving rise to important symptoms; of the changes in the functions of the cord and of the brain, resulting in bodily and mental symptoms; and of the periodic or irregularly recurring paroxysms of fever, with malaise, achings, loss of appetite, nausea, jaundice, and profuse perspiration, which I have seen occur and sometimes persist through a period of years. I should have liked to give you details as to typical examples of meningitis, and of congestive and inflammatory changes in the medulla, the pons, and other parts; and as to the mental alienations, ranging from mere lowness of spirits to the most powerful and dangerous melancholia or other forms of serious insanity. I should have liked to speak of the numerous eye changes which resulted from the process—inflammation and ulceration of cornea, conjunctivitis, iritis, glaucoma, asthenopia, optic neuritis, optic atrophy, paralysis of accommodation, discromatopsia, blepharo-spasm, and many more which have been observed by ophthalmologists. I should have liked to speak of the diseases of the ears, the deafness from various causes, but especially the otitis which occurred during the epidemics. I select a single fact in illustration of the formidable character of this from Gubler's statistics of his hospital practice in Munich. In three months when influenza was not prevailing he treated in all 52 cases of catarrhal and 44 of acute otitis. In three months when the epidemic of influenza was at its height the catarrhal rose to 309 and the acute to 316. I should be glad also to tell you of changes in the sense of smell and of taste—sometimes in the way of diminution, sometimes in the way of perversion, and sometimes in the way of exaggeration of function. One of the heads of our profession told me, in illustration of this last-named and rare variety, that during his convalescence he attained to an acuteness of perception of odours and flavours much in excess of his normal condition before or afterwards. The locomotor system also sometimes showed important changes in respect of bones, joints, and muscles, but upon them I must not linger.

Now, Mr. President, one would be inclined to say, unless we had ourselves witnessed the facts, that surely there must be exaggeration when so many processes are referred to a single cause, but I appeal to you as practitioners, I appeal to the general experience of the profession, whether all these sequels and complications have not been definitely proved to stand related to the influenza process. I am quite aware that loose thinking and loose talking have been indulged in in some quarters, but I am confident that the most critical analysis would vindicate the accuracy of all that I have said and of much that I have not been able to mention or that has remained unknown to me. When we look over this long and varied catalogue it becomes clear that it includes morbid processes which arise in a great variety of ways. An etiological classification of morbid processes may perhaps serve to render this more distinct. We may recognise:

1. *Diseases which owe their origin to the invasion of foreign organisms, particularly micro-organisms.* — Among the maladies which follow influenza there are undoubtedly several belonging to this group, as, for example, tuberculosis and pneumonia.

2. *Diseases due to faulty chemical action within the body*, either in respect of: (1) the introduction of toxic substances from without; (2) faulty gastro-intestinal digestion; (3) faulty chemical transformation of the blood and other elements of the body; or (4) faulty elimination of waste products. This group is well represented among the after maladies of influenza, the gastro-intestinal cases affording illustrations of faulty digestion, the anæmias, purpura, diabetes, and many cases of gout affording examples of faulty metabolism, while in some instances gout and other maladies may be induced by faulty elimination.

3. *Diseases dependent upon faulty mechanical conditions.*— We find illustrations of this group in the swellings of the limbs and other changes following upon thrombosis of veins, and in the dropsies and other results of backward pressure following upon dilatation of the heart.

4. *Diseases dependent upon faulty innervation.*—Of this group we have abundant examples, as in some of the cardiac and gastro-intestinal disorders, in the feverish attacks, and the profuse perspirations.

5. *Diseases dependent upon morbid nutrition of the tissues, either in the way of inflammation, new formation, or degeneration.*—Influenza has shown numerous illustrations of the inflammation—as, for example, in the cases of meningitis, pericarditic pleurisies, neuritis, the inflammation of the skin, while the degenerations are illustrated by the fatty changes in the cardiac muscle.

From this outline it is apparent how numerous and how varied in their origins are the morbid processes which are entitled to rank among the sequelæ of influenza, and I think that we may claim that our knowledge of the malady, at least in this department of its clinical history, has been immensely increased during the recent epidemics. If we can thus claim to have increased our knowledge of the clinical features of influenza, it is certain that still greater advances have been made in regard to the essential nature of the influenza process. We are now able positively to recognise its essential cause, and to test our diagnosis in cases otherwise doubtful, to judge better than formerly as to its mode of spreading, and with considerable confidence to explain many of its complications and sequelæ. For the discovery of the essential cause of the process we are indebted to Dr. R. Pfeiffer, one of the chief members of the staff of the scientific department of the Institute for Infectious Diseases in Berlin. During the epidemic of 1889–90 he saw and photographed the bodies which are now known as Pfeiffer's bacilli, but their real import was not made out until two years later. In the end of 1891 he found, on examining the sputum, that it contained enormous numbers of bacilli which presented distinctive characters in respect of appearance, staining, and cultures. Even to the naked eye influenza sputum is characteristic enough. Of a yellow-greenish colour, viscid and tough, generally brought up in lumps or balls, and presenting a nummular appearance in the dish. The sputum varies in quantity from a very small amount up to several cubic centimetres in twenty-four hours. In almost every case it is derived from the nose and pharynx, but in those of any severity largely from the bronchial tubes down to their utmost ramifications, and from the air cells of the lungs. Now Pfeiffer, knowing that the mucous membrane of the

mouth, nose, and pharynx constantly contains a great variety of micro-organisms, and that the bronchi under ordinary conditions are entirely free from these, sought to investigate specially bronchial expectoration, and there he constantly found the characteristic organism. From such bronchial sputum spread out on sterile glasses he cautiously selected purulent parts with a platinum loop, laid it on a cover glass, and proceeded to stain. Loeffler's alkaline methyl-blue did well, but the best preparations were obtained by steeping for from five to ten minutes in a pale red solution of carbol fuchsine. The rodlets become very distinct with this staining, and are found free as well as within pus cells in the protoplasm round the nucleus, but never within the nucleus. They are short, slender rodlets; the extremities colour more distinctly than the rest. With regard to their culture some very unusual facts were elicited. They can be cultivated only with great difficulty and upon quite special soils; neither in gelatine nor agar plates could the colonies be got; neither by aerobic nor anaerobic process could he obtain colonies of the characteristic bacilli except when he inoculated the sputum itself or purulent matter from the lung directly upon the agar, and then he obtained minute water-clear colonies visible only with the lens and composed of the fine rodlets.

I shall not follow in detail the beautiful observations by which Pfeiffer showed that the presence of blood in the agar soil was essential for the growth, and that in the blood it was the red corpuscles, not the leucocytes or the serum, that were essential; that in the red corpuscles it was not the stroma but the hæmoglobin that was the necessary part, and that the value of the hæmoglobin did not depend upon the oxygen-absorbing power, but upon the iron it contained. When once he had ascertained the conditions, he was able to carry on successive cultivations through a period of many months. The proof that Pfeiffer's bacillus is the true essential cause depends upon the fact that the organism is met with constantly in the catarrhal discharges of influenza patients and has never been met with under other conditions. The only evidence that is wanting to complete the chain demanded by Robert Koch in his famous rules is the demonstration that the cultures are capable of producing the disease when inoculated. Now the difficulty is that man appears to be almost the only animal which affords an appropriate nidus for the organism. It is true that, according to the experiments of Pfeiffer, rabbits were to a certain extent influenced by such cultures, for they got dyspnœa and a muscular debility, amounting almost to a paralysis, when they received such injections; but seeing that no multiplication of the organs took place within their bodies, and that the effects were equally distinct when the bacilli had been killed by chloroform previously to their injection, it was certain that no true infection occurred in these animals, but that the effects were due to the toxines introduced along with the cultures. Among apes he succeeded on several occasions in inducing disease, which presented such analogies to human influenza as made him believe that probably they are capable of true infection. For example, he injected into the trachea of a monkey a piece of typical influenza sputum of the size of a pin-head, containing bacilli rubbed up with 1 c.c. of sterile bouillon. Some of the injection passed into the cellular tissue behind the trachea. On the seventh day the monkey was found dead, and on examination there were an abscess behind the trachea and a number of patches of collapse throughout the lung, the bronchi leading to these patches being blocked with greenish pus. These plugs, as well as the pus from the abscess, showed no micro-organism except the influenzal one, and that only in small quantity. But Dr. Klein, in a very able research in most respects confirming Pfeiffer's conclusions, differs from him as to the results of experiments on animals. Among thirty rabbits into which he introduced influenzal material in no single instance did a disease recognisable as influenza make its appearance, while among eighteen monkeys inoculated only in one did clumps of influenza bacilli make their appearance, and in that instance it was associated with other micro-organisms. It thus appears that we have no sufficient proof of the communicability of the disease to the lower animals; but this is the less important seeing that other observations make it almost certain that influenza is incapable of affecting any animal excepting man, for Dr. Klein points out that while influenza was raging in London there was no increased sickness observable in domestic animals or in those in the Zoological Gardens, the monkey house in these gardens remaining as healthy as usual. As experiments on the human subject are scarcely permissible we are compelled to be satisfied without this kind of evidence.

With regard to the distribution of the bacilli in the bodies of those infected, they are as a rule present in enormous numbers among the mucus of the respiratory tract. They are to be found also in the mucous membrane, and to some extent in the neighbouring tissues. They are met with in the inflamed patches of the lung, along with the ordinary micro-organisms of pneumonic processes. They are occasionally found, but in comparatively small numbers, in the blood, and when there they appear to be dead or dying, being no longer capable of cultivation. Klein has shown that they may block bloodvessels in patches of inflamed lung, and they have occasionally been found in different parts of the body, as, for example, in the kidney and the liver, but I am not aware that their presence has been determined in the gastric or intestinal mucous membranes in cases in which the stress of the disease falls on these parts. Accepting, then, the fact that Pfeiffer's bacillus is the essential cause of the disease, we have next to inquire how it produces the various symptoms and how it stands related to the complications and sequels. Does the bacillus itself, which so abounds in the sputum, produce the catarrh of the respiratory tract? I believe that it does. We know that the bodies of bacteria are capable of setting up inflammation and producing pus, as the experiments of Buchner have shown. We know that the bodies of the bacilli have the power of attracting white blood-corpuscles towards them by positive chemotaxis, as was shown in the experiments of Gabritchewsky. This is typically seen in gonorrhœa, where the gonococci attract large numbers of white blood cells, which constitute the inflammation, and it is most probable that in the case of influenza the substances contained in the bodies of the micro-organisms so attract white cells and produce the characteristic inflammatory changes. It cannot be said that this is absolutely demonstrated, for it is conceivable that the products of Pfeiffer's bacillus may be essential to the production of the inflammation; but, passing from the local to the general constitutional effects, the degree of fever, the aching pains, the general debility, which are ordinary symptoms of the malady, can these be ascribed to the direct action of the bacilli or to that of their products? The gonococcus has served as a type of direct action. I shall select the bacillus anthracis as a type of the indirect. That organism is injurious mainly by its action upon albuminous substances. When it develops in them it so acts as to produce from their materials albumoses and alkaloids. If it be cultivated upon a non-albuminous medium it does not evolve the very toxic substances which it produces when grown upon alkali albumen. Here, then, we have a type of the indirect effects of bacteria. In the case of diphtheria it seems pretty certain that there is a double action; on the one hand, certain changes locally produced by the Loeffler's bacillus itself, and, on the other hand, constitutional changes and changes disseminated throughout the system, results of the products of these bacilli. Now it seems probable that the constitutional symptoms of influenza result indirectly rather than directly, and that for several reasons. 1. That the bacteria are not found living, active, numerous in the blood and throughout the tissues of the body generally, and therefore cannot be supposed to be operating so widely. 2. That the character of the symptoms corresponds to those that we know to be due to such poisoning; or, in other words, that the analogy of diseases of which we can speak more positively points that way. If such be our conclusion as to the general symptoms which occur in all cases of influenza, still more must it apply to the complications and the sequelæ. We have already traced and illustrated the chief groups of these; let us now go over them and see the bearings of each.

Our first group included complications and sequelæ which were due to the action of other micro-organisms. How does the influenza process stand related to these? I believe in a considerable number of ways:—1. By affording a nidus in which germs may readily multiply. We know well how a simple inflammation of the throat, or that attending measles or scarlet fever, provides a nidus in which the bacillus of diphtheria readily finds material in which to grow, and similarly, it appears that the inflammation produced by the influenza process in the pulmonary tissue around ultimate bronchi affords a ready nidus for the development of Fraenkel's diplococcus or the bacillus of Friedländer, which are so closely related to pneumonia, or for the tubercle bacillus and the tuberculous consequences. 2. By lowering the general power of resistance to micro-organisms. The importance of this element has been demonstrated both by observation and experiment. One of the ships of our

navy landed some men on a portion of African coast affected with malaria. A certain proportion of these men were soon afterwards exposed to great fatigue, while the others were resting quietly in their hammocks. The latter suffered slightly from malarious fever, while of the former many were severely affected. It seems reasonable to conclude that the exhaustion of the bodies of the overworked men rendered them less capable of resisting the action of the malaria organism. Experiment confirms this, as in the case of the white rats which Charrin and Roger have described. They inoculated eleven with anthrax bacilli, and of the eleven allowed five to rest, while the other six were put upon a species of treadmill. The five who were allowed to rest remained unaffected, while those who had been subjected to the peculiar form of exercise died in periods varying from twenty-four to thirty hours.[1] 3. It is possible that some of these may illustrate the principle which is known to scientific workers as mixed infection. It has been found by experiments on rabbits that when two germs are simultaneously or in rapid succession introduced into the body sometimes the one prevents the growth of the other, sometimes it renders the growth more rapid and luxuriant. Take, first, an example where the growth is checked. If we introduce the green pus bacillus and the bacillus anthracis into a rabbit they neutralise one another, and the danger to the animal is greatly lessened. On the other hand, I shall select two instances. Take, first, the green pus bacillus in association with the bacillus of tubercle; the combination leads to rapid and severe development of the tuberculous process within the body. Take, again, the case of erysipelas; the streptococcus which is the essential cause of this disease, if introduced into the ear of a rabbit, produces some local irritation, which passes off in the course of a few days without any blood infection or general result; but if at the same time 1 c.c. or less of the sterilised products of micrococcus prodigiosus, which is itself not a very dangerous organism, be injected subcutaneously at another part of the body the process becomes generalised and the animal dies. After death the streptococcus of erysipelas is found abundantly in the blood and throughout the organs generally. Roger states that even two or three drops injected into the blood stream sufficed to bring about the result, and the effect is believed to be due to the products of the organism.

Such facts being thoroughly well ascertained, it is reasonable to suppose that perhaps the bacillus of influenza or its products may be capable of conferring increased activity upon certain other micro-organisms when it happens to be associated with them.

Our second great group of morbid processes is that in which faulty chemical action is evolved. We have seen how some of the processes which pathology refers to faulty chemistry have occurred as complications or sequelæ of influenza. Take gout as a typical example. A patient of gouty constitution is very liable to have an attack after influenza. This may be explained by reference:—1. To the general debility, whereby the gouty patient becomes more liable to the operation of the causes which induce his paroxysm. 2. The special depression of the nervous system, which has long been known to stand related to outbreaks of this sort. 3. To the interference with the processes of gastro-intestinal digestion from interference with the functions of that organ. 4. To interference with the chemical changes in the liver, in the blood, perhaps the spleen, and other organs, which interfere with metabolism. 5. To defective action of emunctories, whereby waste products, failing to be removed by the natural channels of elimination, accumulate within the system and exert a toxic influence. 6. Perhaps the chemical products of the influenza bacillus itself may interfere directly with chemical transformations, and so the gouty process be established. In the case of others faulty chemical processes which have so often been seen to follow influenza, such as diabetes mellitus, similar explanations may hold good, or specific influences on the nervous system or on the pancreas with which we are not yet acquainted may play a more important part. It is not necessary for us to dwell upon morbid conditions due to disturbance of the mechanism of the body; but our next great group—that connected with faulty innervation—is certainly of great importance. The cardiac, the gastric, and the bronchial and the intestinal disturbances all afford important illustrations of this group, for, as we have already seen, it is through the nervous system that these organs are most frequently disturbed. But we must ask in what way the nervous system itself becomes altered. I have no doubt that in most cases it is due to poisoning, without organic change which we can recognise, but sometimes it is a result of definite structural alteration.

Our fifth group includes the series of inflammatory and degenerative processes, and of these we have many illustrations in a great variety of tissues and organs; the inflammations of mucous surfaces, of serous membranes, and of solid organs; those of nerves, of nerve centres of the membranes of the brain and cord, afford types; while of the degenerative changes the fatty degeneration of the heart affords, perhaps, the best example.

I have already shown reason for thinking that these morbid processes are due, not to the bacillus itself, but to its products. As yet we have no information as to the precise nature of these products and as to their modes of action. At the present time Dr. Pfeiffer is engaged in a research with regard to them; but meanwhile we can only judge by analogy with other diseases of kindred character. It is not to be wondered at that difficulty should be experienced in connexion with this inquiry, considering how difficult the cultivation of Pfeiffer's bacillus is, how minute the colonies are which it produces on cultivation, and that its action appears practically limited to the human subject, and so experimental inoculations are almost impossible. The diseases which by analogy throw most light upon this subject are anthrax and diphtheria, and the researches which seem to me the most valuable are those of Dr. Sidney Martin. He ascertained that the anthrax bacillus gives origin to two classes of products, one group of digested proteids—namely, albumoses—the other non-proteid, a definite organic base with a specific action. When the anthrax bacillus is introduced into the body it begins to digest the proteids, the products of digestion cause local œdema, but the absorption of these products produces the symptoms of the disease, and the stupor, ending in coma and death, is due to the gradual accumulation of the anthrax base. In diphtheria Dr. Sidney Martin found the albumoses associated with an organic acid and much more abundant than the acid. In the case of a child only a year old who died from diphtheria he obtained fifteen grains of albumose from the kidneys. He found, further, that the spleen is the chief repository of the diphtheritic poison of the body. The albumoses of diphtheria cannot be distinguished from those of anthrax or peptic digestion by chemical means. This physiological effect is the only method by which their specificity is made evident. When the diphtheria albumose is injected subcutaneously it produces local œdema, and in guinea-pigs no well-marked rise of temperature, while the anthrax and peptic albumoses produced distinct fever. Intra-venous inoculation in single doses, or in repeated smaller doses, produced a varying amount of fever, but what was much more striking and constant, paresis of the muscles. It did not amount to paralysis, and it affected the movements both of the limbs and respiration. There was no special wasting of muscles, no change of pupil, no sensory alteration and diminution of the knee jerks in proportion to the paralysis. Another striking effect is loss of weight in the animal, and that not in proportion to the amount of fever; also diarrhœa; and attention further must be drawn to the remarkable prolongation both of the fever and of the general wasting. Post-mortem examination showed that the blood was slow of coagulation, and no wide distribution of germs throughout the body could be demonstrated by the microscope or by cultivations. Thus it was certain that not the germs but the products were the cause of the symptoms. Histological changes of the greatest interest were also discovered. The muscular tissue of the heart was found to undergo fatty degeneration in a marked degree by the action of the albumoses, but to some extent also by the action of the organic acid. The nerves also were found to undergo important organic changes. The white substance of Schwann was diminished or completely lost. Sometimes it is pale, granular, broken up; the axis cylinder is in many instances broken below the point at which the white substance disappears. It is not every branch that is affected, and therefore only paresis and not paralysis results. Dr. Martin's general conclusion is that the diphtheria albumoses select for their action the peripheral nerves just as strychnine selects the motor cells of the cord; and it is probable that the effects may consist either simply in functional alteration or in true organic processes.

[1] Comptes Rendus de la Société de Biologie, Jan. 19th, 1890.

Now, applying this knowledge to the influenza processes, we seem entitled to conclude:—1. That the bacillus, which is not widely disseminated throughout the body, produces its effects by its chemical products. 2. That these chemical products may probably be of the nature of albumoses associated with an organic acid or acids, or with an alkaloid or alkaloids, which may perhaps be produced indirectly by means of a ferment secreted by the bacillus. 3. It is probable that the production of these substances takes place to some extent in the spleen, which is so often found enlarged in cases of influenza. 4. That these poisonous products act upon nervous and other tissues, producing the great variety of functional and structural changes which are met with in the later stages of the influenza process. The peripheral neuritis affecting the nerves of the extremities we can well understand. A similar process affecting the phrenic nerve, or affecting the motor or the inhibitory nerves of the heart, affords an explanation of many of the clinical phenomena with which we have become familiar. Degenerative changes in the muscular tissue of the heart might account for other conditions. Changes in the nerves of the stomach and intestines, or in the mucous membrane itself, might account for the gastric and intestinal symptoms, while blood changes might result from affections of the spleen or of the red marrow spaces of bone. Such is in outline the view of the pathology of influenza which recent discoveries seem to me to justify.

In conclusion, we have to inquire as to what real progress has been made in regard to the prevention and treatment of the malady. I shall speak first of prophylaxis. Many facts have been ascertained which are fitted to suggest and even justify the adoption of preventive measures, although it must be admitted that the application of these measures is by no means easy. Up to the time of the recent epidemics it may be safely asserted that little importance was attached to the spread of the disease by contagion, and much to its dissemination by the atmosphere. The striking and typical cases which have so long figured in the text-books and lectures, in which ships at sea were suddenly overtaken by the disease, were vividly impressed on the minds of the profession and the public. What student of medicine is there who does not remember the story of His Majesty's ship *Stag*, which on April 3rd, 1833, the very day on which London was stricken throughout its length and breadth with influenza, was making its way up the English Channel along the Devonshire coast? At two o'clock it was off Berry Head, and all on board were well, but an easterly breeze sprang up and blew over the land to the ship, and in half an hour forty men were down with the influenza. By six o'clock the number was increased to sixty, and by two o'clock the next day another hundred of the crew had been rendered helpless. The story is alike telling and picturesque. The inference was obvious that that east wind blew over a district contaminated with influenza and bore with it the contamination which induced the outbreak in the ship. The case seems at first sight conclusive. But when we consider the geography of Berry Head it becomes clear that the *Stag* must have been tacking far in to the estuary of the Dart before any easterly breeze could have blown over Berry Head so as to reach the vessel. In fact, it seems impossible to conceive that a vessel could have occupied the necessary position, and it seems evident that some inaccuracy, due to faulty memory or exuberant imagination, had crept into the narrative. The extreme suddenness of the attack—forty men taken ill within half an hour—surpasses anything that I know of in the recent epidemics, and with our present knowledge one cannot help wondering whether at Falmouth or at Plymouth there had not been communication with people on the shore.

Many have searched earnestly for similar cases during our recent epidemics. In the masterly report by Dr. Parsons, published by the Local Government Board, we are told that every effort was made to discover instances of outbreaks occurring in ships at sea, among lighthouse and lightship keepers, who, having had no communication with the land, had become infected through the atmosphere; but not a single fact was elicited which lent support to that view. Inquiry was made among the trawlers, who often remain many days at sea, fishing on the Dogger Bank and other places which fish frequent; but in no instance was it found that they had become affected, unless when in contact with influenza patients. The same was true of the keepers of the lighthouses and the lonely lightships which mark the channels or indicate dangers. While recent facts have thrown doubt upon the old belief in atmospheric spread of the disease, evidence of an overwhelming force has accumulated in favour of its spread by contagion. From Germany, from Switzerland, from Austria, from Bavaria, and from France innumerable instances have been put on record which prove that the malady spreads from the sick to contaminate the sound, but no evidence more important has been advanced than that of our Government officials, to whom I have already referred. No one who reads the report of Dr. Parsons can hesitate to accept the opinion which he so ably advocates. Not that the idea of contagion is new, for a hundred years ago Cullen described influenza as *catarrhus a contagio*, and every good observer since may be said to have recognised the same fact. Still, recent experience has given a fulness to our knowledge, and, I think, an exclusiveness to this method of spread which had not been formerly claimed for it. As Dr. Parsons says, we cannot but attach weight to the fact that the epidemic was seen to spread contrary to the prevailing winds and that it was independent of season and weather, that it was never known to travel faster than men can travel, that it never occurred among persons so placed as to preclude communication by human agency; that, as a rule, it appeared first in each country in the ports of entry or in the frontier towns, and in the busy capitals which were most active in intercourse with neighbouring lands which had become affected; that, as a rule, the country places remained longer free than the busy towns, even although they might be nearer the countries already invaded by the disease; that the individual members of communities who were most in contact with others were first affected, and that from them it spread to others with whom they were associated; that persons who were wont to congregate in crowded and especially in ill-ventilated buildings were attacked, and that where people were closely associated in public institutions the disease came more speedily to its height and was sooner got over than when men were more secluded from one another.

Another important fact which has been made out is the shortness of the period of incubation. Sometimes the symptoms appeared almost immediately after exposure. Professor Eichhorst of Jena, for example, saw a case of severe influenza. Half an hour later, on his way home, he was himself seized with symptoms of the illness, and although such extreme rapidity of action was rare it was quite common to find the disease break out within twenty-four or forty-eight hours of exposure. Now, if we consider the brevity of this period of incubation we can well conceive how its epidemic spread should be so rapid. Contrast its power of spreading from an individual patient with that of small-pox. The small-pox patient comes in contact, let us say, with 10 susceptible individuals. At the end of ten days these 10 may not improbably have taken small-pox; but 1 case of influenza has in two days produced its 10 cases; in other two these 10 may have infected 100; in other two the 100 has become 1000; and in other two days 10,000 cases may have been produced. Moreover, as the great majority of people are susceptible to the action of this poison, as one attack confers no immunity from another, and as it often spreads from cases which are not severe and appear trifling and unimportant, its return in a community, even by contagion, ultimately surpasses what anyone could expect. But the spread is not exclusively by direct intercourse between the sick and the sound; it is often by means of fomites. Post-office and railway officials were specially apt to suffer early, and from them as centres it sometimes spread through the community, and these facts afford instances of the tendency the disease had to spread by letters and by parcels. Such facts as these made everyone confident that a micro-organism was the essential cause of the disease and prepared the profession to accept the discovery of Pfeiffer as soon as it was made. It cannot be said that our knowledge either of the laws of the epidemic or of the life history of Pfeiffer's bacillus is so complete as to enable us to correlate all the facts together; but many points in the life history are ascertained and seem to me to be alike interesting and important. The bacillus seems to be capable of affecting the human subject only. It requires, as we have seen, blood elements for its growth. It cannot grow above 42° C. = 107·6° F., nor at the utmost below 23° or 24° C. = 75·2° F. Now, as in temperate climates such a temperature is not often reached, and is certainly never maintained for any length of time, and as the disease spreads in cold weather as well as warm, with little or no regard to temperature, it is clear that it cannot multiply outside the human body. This has been abundantly proved by Pfeiffer.

The question whether the influenza bacillus is capable of

retaining its vitality in water and of reaching the human subject in that way, as cholera so often does, has also been worked out by the same investigator. He took some influenza bacilli and inoculated blood agar with the mixture. In due time colonies appeared. Twenty-four hours later, the water having been in the meantime kept at the ordinary temperature, inoculations were made on the same medium, but they produced little result. Eight hours later further inoculations were made, and all remained sterile. Thus certainly it cannot be communicated by water; but it may in some fluids retain its vitality for a longer period. In bouillon, for example, it will live for fourteen to eighteen days, and it is probable that if sputum retain its moisture it may live in it for at least as long a period. In this way we may explain the convection of the disease by fomites. The influenza bacillus is extraordinarily sensitive to drying, and the more complete the drying the more rapid is its death. At 37° C. = 98·6° F. there was a diminution of the number of colonies produced by inoculation, and in one to two hours no colonies could be obtained. In the rather moist air of Pfeiffer's laboratory the process of drying was slower. The most careful search has failed to elicit evidence of any spore or resting form (*Dauerform*) of bacillus, and so we know at present no seat of its multiplication except the respiratory tract of the human subject, nor of spread except from that source. These considerations are fitted to guide us in the inquiry as to how we shall be able to deal with the influenza bacillus itself. Outside the body of the healthy person it might be prevented from producing the effects if we could effectively isolate those who have become affected with the disease. Every sneeze, and every cough probably, scatters the germs throughout the atmosphere, and if we could only isolate those who are affected the danger would greatly diminish; but isolation in a general way is impossible, and that because many cases of true influenza are so mild as to escape detection, and because even where the case is severe infection is often spread before diagnosis is possible. But, on the other hand, now that people have ceased to regard influenza as a trifling and unimportant malady and have come to know that it is certainly contagious, precautions have often been taken that were scarcely dreamed of in former epidemics. Infected individuals have isolated themselves, and thereby have saved their neighbours from contamination. People suffering from heart or lung disease have been kept scrupulously away from the infected, and have thereby escaped what would have been to them a terrible danger. Schools have been closed, with the result of diminishing the severity of certain outbreaks, and I have no doubt that when the next epidemic of influenza occurs precautions of this kind will much more generally be adopted. But even where isolation is impossible much good may be done by destruction of the sputum and of the nasal secretion. If patients expectorate into vessels containing sufficient disinfecting fluids, or into pieces of linen which are immediately thrown into the fire, innumerable quantities of noxious germs may be destroyed in each case. So precautions as to the discharges, if once efficiently taken, would tell materially upon the epidemics. It may be asked what is the best disinfectant for destroying the bacilli. Fire and water are no doubt efficient, but certain substances are to be specially recommended. If we can thus deal with the bacilli discharged from the body, the question next arises whether we might not deal with them within the bronchial tubes. If we could do so we might prevent their multiplication, we might prevent the development of their toxines, we might greatly diminish the noxious power of the sputum. Inhalations of many antiseptics have been recommended for this purpose; eucalyptus and menthol have been, perhaps, among the most popular. For my own part, I have decided to try, whenever I have opportunity, the injection into the trachea of such substances as have proved serviceable in other diseases of the respiratory tract. In some cases of bronchiectasis I have obtained most satisfactory results by the intra-tracheal injection of a 10 per cent. solution of menthol in olive oil, with or without 2 per cent. of guaiacol superadded; and I look forward with interest to trying the like method in cases of influenza. It may be asked whether, during epidemics of influenza, such intra-tracheal injections might not confer a degree of immunity upon those who are exposed to the contagion; and I should certainly carry out this method of treatment among my phthisical patients if the epidemic should recur. I should incline also to give it a trial with others who may be necessarily exposed.

Another question which emerges is whether we could discover any means of conferring immunity by rendering individuals insusceptible to the action of the germs. Now the mere fact that one attack of the disease confers no immunity from subsequent attacks makes one less sanguine as to the probability of such a material being discovered, but I observe that Pfeiffer in his great paper remarks that it may perhaps be one day within our power to supply a preventive treatment by the use of the derivatives of the specific bacillus. Again, it would be of great service if we could discover substances by means of which we might destroy or neutralise the poisonous products of the bacilli, and so prevent the secondary results. If we could in the case of a patient with prolonged debility of the heart or with great nervous or mental depression neutralise the poison which is bringing about these results we should rob the disease of many of its terrors. The antitoxines, which have been discovered to have the power of combating, as it is supposed, by chemically destroying the poison evolved by the "drumstick" bacillus of tetanus, afford a type of what may one day be accomplished in this way, but meanwhile no such material has been discovered. It is also conceivable that substances may be discovered which would act as physiological antagonists to the influenza toxines; but this also is in the meantime mere matter of conjecture. The last question which I shall raise is whether we can so act upon the system generally or upon the organs specially affected as to combat the injurious effects. There is one lesson which most people have learned from the recent epidemics—namely, that those who are taken with the disease even in a mild form ought not to struggle against it and go on with their work, but should yield to the malady for the time, in the hope of escaping or lessening its after-effects. I have found that when the after-effects manifest themselves rest from mental and bodily effort is essential, and that careful attention to diet, to protection from cold, to the moderate and wise use of stimulants by those who are accustomed to employ them, and of such tonics as nux vomica, quinine, arsenic, and iron, with special cardiac or other tonics when they are indicated, prove eminently beneficial. On looking back over the field which I have thus hastily traversed one is satisfied that real progress has been made, that the profession are already better prepared to meet the next epidemic than they were to meet the last, and that we may yet hope for the promulgation of discoveries which may prove of more signal service.

Address in Surgery.

Delivered at the Annual Meeting of the British Medical Association held in Bristol in August, 1894.

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THE ART OF THE SURGEON, AND HOW WE TRAIN MEN TO PRACTISE IT.

MR. PRESIDENT AND GENTLEMEN,—It is, I am sure, a source of pride and of pleasure to many in this room besides myself that a Bristol surgeon and the teacher of surgery in the Bristol Medical School should have been chosen to deliver the Surgical Address at our meeting here. On behalf of our city and our school in the first place, and on my own behalf in the second place, I desire to make most grateful acknowledgment of the honour. In seeking for a subject on which to address you I have been careful to consult precedent. The surgical orator has, I find, most often and most properly assigned to himself a task akin to that of the minstrel at the feast in old times. He has been our pæan-writer; he has sung of our victories over science, and he has glorified our scientific heroes. In telling the tale of good deeds done some of our orators have been able to point the way to new conquests; a few have been critics alone; and in almost every case the speaker has dealt with the science of surgery. I have thought that I may for once leave the science of surgery alone—it is, indeed, well able to take care of itself—and, instead of the science, I shall speak of the art; instead of the making of surgery I shall speak of the making of the surgeon. The Art of the Surgeon, and How we train men to Practise it—this will be my theme. My ambition is to keep fresh in your minds the fact that not

only have we knowledge to acquire but also an art to learn. The art may be of little importance as compared with the science of surgery; there can be no dispute that it is; still, as the servant, the interpreter, occasionally even the improver of the science, it has its importance, and may be worth thinking about and worth discussing.

What is a surgeon? A stranger looking at the doorplates of an English town might reasonably infer that there was no lack of material on which to base an answer. But then the stranger does not know, as we do, that the title "Surgeon" on an Englishman's doorplate usually means that the possessor thereof is prepared to practise any and every branch of the healing art save and excepting surgery. This covering of the whole field of the healing art by the titular surgeon is the more remarkable that he alone amongst craftsmen should have retained the name "handworker"—χειρουργός. Not less remarkable, perhaps, is the fact that the physician should have appropriated to himself the special epithet of "learned-man"—doctor. Not his healing, but his learning, is his distinction. In each of these extensions or perversions of meaning there may, perhaps, be ground for pride. In these days of grandiloquent naming the surgeon is almost unique in following a pursuit whose name of "handwork," "chirurgery," is humbler than it need be. This is certainly to his credit; and if, from his brethren, doctors in divinity, in law, in letters, and in science, the public insists on singling out the doctor of medicine as "the doctor," that can scarcely be to the physician's discredit. It is this pre-eminence in learning probably, and not any reality in fact, that makes the public think that, when they say that "doctors differ," they are speaking of physicians. The public goes further, and insists on calling us all, surgeons and physicians alike, "doctors"—learned in most things, let us hope; learned in the healing art certainly. And the public is right. The surgeon is, first and foremost, a physician, a man trained in the laws of health and disease, in the ways of preserving health and of curing disease. In person or by proxy he must lean finally on medicine. To his medical training is superadded a special and peculiar education in the treatment of certain diseases which lend themselves to cure by the help of handicraft. The surgeon is a man who can carry the treatment of a class—a small class—of diseases further than the physician, and that is all. The physician, on his side, goes beyond the surgeon. But both meet. In old times the surgeon was practically the slave of the physician; later he struggled up to the dignity of being his enemy; to-day he is his equal and his helper. They join hands over the same patient, each seeking from the other some special help in healing. And herein to-day is the difficulty both of the surgeon and of the physician. Each is driven to his wits' end to meet the manifold demands made on him by the other. This is their only rivalry, a goodly and a wholesome one, leading to new victories over disease.

Amongst other arts and crafts the surgical stands alone in the extraordinary breadth of its foundation on science. The painter is not expected to know the sciences of chemistry, botany, geometry, and optics, which are in intimate relation with his art; nor is the sculptor supposed to be familiar with geology because he works in clay and marble. Possibly both painter and sculptor would be the better for a scientific knowledge of their materials, but such knowledge is subsidiary and unessential. To the surgeon wide scientific knowledge is of prime importance—it is, indeed, essential. His range is almost coterminous with abstract science—something of all of the sciences, a good deal of a few, and everything of two or three he must know. You know the subjects only too well, I need not recapitulate them. We do indeed make a brave display; is it all genuine? Our examiners surely have their suspicions, so careful are they to catch the student at the end of every year of study, being fearful, apparently, that his knowledge will soon trickle away. It looks as if the student might play with knowledge as a cat does with a mouse; he plays with it and ultimately kills it, but, like the well-fed cat of civilisation, he refuses to convert the prey into food. He may assimilate the knowledge, but the process is not one of healthy cerebral digestion. As the liver of the goose of Strassburg is to the gustatory palate of the gourmet, so is the brain of the student of medicine to the intellectual palate of the examiner. There is artificial cramming and gorging, resulting in the formation of a temporary deposit of lowly organised material, which, in the case both of student and of goose, may soon be cast off on a return to healthy life. For us surgeons this is fortunate, for we have much real knowledge to pick up when our examinations are over, and we want to start on its acquisition with clear and unclogged brains. In the meanwhile those who arrange our curriculum go on adding to it. Where is this importation of new subjects going to stop? We go on broadening the base and adding to the foundation—might we not now give some thought to the raising of the building? The rolling years add to our pile of knowledge, and the burden laid on us becomes heavier to bear. To some of us the burden is already too heavy; others carry it easily, and even voluntarily add new weight. How to deal with the pile so that it may best minister to our good is a problem always before us, seeking solution. Some would solve it by deliberately casting off part of the burden as being cumbersome and useless. These men say of anatomy that we have too much of it. If surgeons, they say they cut where they have to cut, and if they divide a vessel they tie it. The right kidney they find in the right loin, and the left kidney in the left loin, and they cut down till they come on it. If facts must be borne in mind till examination, there are mnemonic rhymes and cabalistic formulæ to save the labour of the brain. There is, they say, too much anatomy. They say of physiology that it is unstable and uncertain, that it is burdened with an affectation of science, called by its young votaries "research;" and they affirm that the young physiologist when he becomes a physician administers a dose of castor oil to his patient on very much the same principles as his grandmother followed when she gave a dose of the same drug to his father. Pathology also they despise. They tell us that this is the science of the "too late"; it helps us when the power of helping the patient is past. From the disintegrated remnants of the deadhouse they tell us we can no more work back to the beginnings of disease than, from the shattered fragments of a fortification, the artilleryman can work back to the powder and shot and ordinance which created the havoc. These men are not few, and they are as honest as their opponents. The views they hold have been maintained on this very rostrum. Well, to-day, from the same place, I venture in all humility, but with firm belief, to proclaim the very opposite. If I am asked of surgery, "Are we to lower it so that brains may not be strained; or are we to strain our brains that surgery be raised?" then I answer unhesitatingly, "Let surgery rise if brains fail." Let the weak, or the lazy, or the impatient fall out, but do not let us lower our standard because some men cry that it is too high. It cannot be too high; it can never be high enough. The claims of surgery, as I understand them, are such that no test of excellence can be too high for those who seek to qualify themselves for its practice. I am not, therefore, for casting anything away; but I would select, rearrange, and raise. I would gladly see zoology and chemistry and botany turned out of the curriculum and placed among the preliminary studies and made part of the preliminary examination. And I should like to fill their places in the curriculum with more anatomy and more physiology and more pathology. I would extend and raise our education in these branches simply and solely because I firmly believe that the fullest knowledge of them goes to provide the best practice of our art.

The world in educating itself sets us a bad example. The end of culture for the multitude would seem to be to nibble at science, to dabble in art, to drivel over the glorious advances of the century. This is just what the surgeon has to set his face against. Surgery tolerates no dawdling or dilettantism; the philosophy of the make-believe has no place in the surgeon's system. His knowledge must be real and thorough and practical, and his own, and he must carry it with him. Knowledge of this sort is begotten only of personal labour. Distributed in cribs and mnemonics it is useless for the surgeon. He must have the real knowledge of the artist. Art distributed amongst the multitude in plaster casts and chromo-lithographs—art, that is to say, reduced in bulk and cheapened—may elevate the multitude, but it does not make the artist. Now, the surgeon is to be the artist, the craftsman; he is not the distributing middleman, nor is he the mechanical copyist. So of science; science made easy of digestion, reduced to a concentrated extract and administered in minute doses at frequent and stated intervals, may be good for tiding the student over the crisis of the examination fever, but it is not good as frame-forming food for the scientist. The foundation of our art is knowledge of the material to be worked upon, the human body. Anatomy to its uttermost details; anatomy, naked-eye and minute, normal and abnormal, healthy and diseased, is the

foundation of all good surgery. There is no getting over this fact. The good surgeon must be armed at all points; his armour is weakest at the most vulnerable point who is not protected by a complete panoply of anatomical knowledge. If I am asked when the surgical student is to cease learning anatomy I think I should answer: Not during his lifetime. Again and again must he betake himself to the endless human body; and this not only to keep his own knowledge fresh, but because advancing surgery demands a more perfect anatomy. This anatomy the surgeon has to work out for himself. Every region and every organ of the body is indebted to the anatomical studies of the operating surgeon. Only the other day surgeons saw their way to correct the misdemeanours of that dangerous little organ, the appendix vermiformis. Once again they had to sit down and render our knowledge of its anatomy more perfect. It would seem as if centuries of observation by the scientific morphologist could not equal, for our purposes, a few months' work directed by the keen eye of the practical surgeon. The surgeon must indeed go on dissecting all his life long. In physiology and pathology, again, what honest surgeon dare let himself remain ignorant of any new truth that may bear on his art? And what about bacteriology? Is it not full time that a course of this supremely important subject, as important to the physician as to the surgeon, be introduced into our curriculum? And where are we to stop? We must not stop while knowledge advances; we dare not stop anywhere. There is no hope in surgery for an easier life to its votaries; there is, on the other hand, a certainty of a harder one.

Now, in the persistent and overwhelming claims of its science, there is real danger that surgery may lose something of its art. It is an old story that a reformation in knowledge has meant ruin to art. Possibly the loss of the finest products of ancient art and literature has been more than compensated by the moral and intellectual improvements which accompanied or caused this loss. This may be so; still it seems a pity that science should so often kill art. The process goes on to-day, and we help it. For example, the beautiful arts of the line engraver and of the etcher, of which some of the most exquisite specimens ever produced are to be found in old works of surgery, are being cruelly handled by the artistically crude, but scientifically interesting and exceedingly cheap, productions of the process block which now artistically blot the pages of our books and magazines, but greatly add to their value. There is no reason in this; science and art can well flourish together, and even help each other. Certainly it is so in surgery. Much, very much, most indeed of surgery, is science, but there is art in surgery as well, and the art is worth keeping alive, it is worth advancing. I trust I have not been unmindful of the claims of the scientific foundation of the surgeon's training, and if I urge the claims of the art more strongly it is because I am afraid of their being neglected.

The art of the surgeon may, for purposes of comparison, be viewed from two aspects. One is allied to the art of workers in wood and iron, and may be called mechanical. The other aspect has little of the mechanical about it, and is closely allied to a fine art. The mechanical side, the art of the application of tools, is an important but comparatively simple one, and need not detain us. Easily learnt as it is, it is still worthy of being taught. It is not, perhaps, a good thing that a surgeon should handle a saw, or chisel, or a drill, or a trephine for the first time on a living human bone; and it would be well if we, who have much to do with apparatus, knew the qualities of the metals and other materials we employ, and the ways of jointing and welding and moulding them to meet the ends we desire. It would, in fact, be good for most surgeons to spend a month or two in a mechanic's shop under the severe discipline of a skilled British workman. With most of us it would certainly not be labour wasted; but I would not make tuition in the joiner's art compulsory because we use joiner's tools. In respect of technical skill in their handling, I would place the surgeon's tools on the level of the sculptor's spatula or chisel, or only a little higher. The chisel of the sculptor and the knife of the surgeon are mere incidents or accessories in the work to be compassed by the brain-compelled hands. Still, as accessories they have their importance; we ought to be familiar with our tools. But the surgeon, I repeat, is more than a mechanic; he has work to do which brings him to the level of the true artist. The other side of our craft I would venture to compare with that which produces what are known as works of art; and this side is by far the more important. Here the work of the fingers is of small moment as compared with the work of the brain. The brain is supreme, and yet, in delicacy, deftness, and general preciseness of obedience to the brain's behests, the fingers and hands have great calls made on them. In painting, sculpture, or music mere manual dexterity is rarely deficient to him who has the artistic soul; or, if there is deficiency, practice and education will do much to remove it. So in surgery the hands rarely fail to rise to the demand the brain makes upon them if they are trained. Let us look a little more closely into the surgical fine art, for it is nothing less than a fine art. The highest part of the surgical art is more than handicraft—it is braincraft uttered through the fingers. It is not mere manual dexterity or cunning. In fact, mere manual cunning, being a result of routine practice which begets reflex movements, is detrimental to surgical art, which demands the widest possible scope and variety of action. I should not quote the marvellous manual dexterity of the button-maker as the highest education of the hand, any more than I should quote the clever work of the oak-grainer as the highest art in painting. The surgeon's art demands breadth and variety in manual training; the hands must have all-round capacity. The finger surgeon begins at the wrong end; he ought to have been a button-maker. No training, however, comes amiss to the surgeon's fingers. By many devices and practisings he may and ought to improve their capacity; but their final and most perfect training is in the actual work.

The skill of the hand depends greatly on the sense of touch and on what has been called the muscular sense. We are endowed with a sense of touch more delicate, perhaps, than is found in any other animal—the only sense in which we excel. The highest cultivation of the sense is essential to the surgeon.

Now the sense of touch is trained through the intellect as much as through the fingers; it is helped by comparative appeals to the other senses, and especially to sight. The blind have been found to have no special excellence in actual sense of touch; they excel in the intellectual interpretation of the sense impressions. We who can bring the sense of sight to help out the impressions of touch ought to surpass the blind in tactile power. Put it in this way. A blind man could scarcely map out in his trousers pocket the figure of Britannia on the back of a penny. But, after seeing the figure, the possessor of a trained finger will recognise by touch many of the details, such as the shield and the trident and the limbs; and so he will identify the whole picture. The blind man cannot correct and verify his groping sense of touch by sight; the seeing man can. So I say that a man who can see might, if he were determined and were loyal to the sense he seeks to train, cultivate his sense of touch to a higher pitch of delicacy than the blind man. There are no limits to the demands made on the surgeon's tactile powers. Touch is to the surgeon what hearing is to the physician in diagnosis, and more in treatment. The exquisite delicacy of differentiation possessed by the ear of the physician we desire to have for the finger pulps of the surgeon. In diagnosis touch tells us what sight cannot; in operating in the dark depths of the body it goes where sight cannot, and sometimes it guides more truly than sight could. But always it is the intellect that interprets. It is as true to-day as it was twenty centuries ago that *Νοῦς ὁρᾷ καὶ νοῦς ἀκούει, τ'ἄλλα κωφὰ καὶ τυφλά.* "'Tis mind that sees and mind that hears; all other things are deaf and blind."

Amongst the plastic arts sculpture perhaps gives us most points for comparison with the surgical. Each deals with the human body. The sculptor has to know the body externally in architecture, in bulk, and in outline; the surgeon has to know it in the same ways, internally as well as externally, and in sections vertical, transverse, and oblique as well. Each art demands from its votaries absolute fidelity to form; the ignorance that misplaces a tendon in a statue will lead to grief on an artery in an operation. There are similarities in their ways of working, too. The inferior sculptor, by adding here and subtracting there, by measuring and squeezing and scraping, may, after long working, make a tolerable likeness, but never a work of the highest art. The true artist goes straight to the stopping point and then stops. What this stopping point shall be we cannot define, but it gives us that sense of true balance between detail and mass which signifies artistic proportion. So in surgery; the surgeon-artist forms a clear conception of the work he has to do and makes straight for the ending of it. Between detail and bulk he determinedly keeps a true artistic proportion. His time is limited, and into this time

he must put his best work. He wastes no time over trifles; he is very deliberate over difficulties. The most elaborate finish in both arts is visible where the technical difficulties are greatest. The clean, straight strokes of a true artist are visible equally in the work of the surgeon and the sculptor. The surgeon who is not an artist is devoid of a sense of true proportion. Where one bold cut is wanted he will make a dainty, nibbling dissection. He verifies his anatomy on the way to his work by the help of the director. He goes a little in this direction and retraces his steps; then a little in that direction and returns. He has hobbies, and he rides one or two well. One man turns the peritoneum in, the other turns it out, a third is careful to ignore it. Perhaps he gives one suture to peritoneum, one to muscle, one to fascia, and one to skin, and each suture is perhaps of a different colour or a different material, so that nature may have no chance of making a mistake. His work is not towards one finished work of art, but to the making of half a dozen clever separate studies. Like the sculptor who is good at hair and works out every one, or the painter who is good at eyes and puts in the dots in the iris, each sacrificing the whole to the part, our inartistic surgeon lingers over his fancies and so fails to produce finished and harmonious work. His details are not all equally balanced; some are exquisite, some are mediocre, others are bad. The whole work, the whole operation, will not be the best possible for the saving of life; it is not all round a finished work of art. Therefore it is to be condemned. The surgeon's art has in it not only the elements of boldness, honesty, and simplicity pertaining to the sculptor's art; it leads him in some of its departments into methods of working which may fairly compare with the most delicate amongst artistic pursuits. The finest work of the surgeon makes demands on the delicacy of the fingers little, if anything, less exacting than the demands made on the fingers of the etcher or the line engraver. The surgeon, as a painter, has to make pictures not only in life size, but in miniature; as a sculptor he has to do not only the full figure and the medallion; his work may also be compared to that of the graver of gems. The operative art of surgery is truly a high art; the demands it makes on the hand, the eye, but the brain of the artist are the same for surgery and the fine arts. Surgery and fine art may, indeed, well be practised by the same man. We see it in our own time. The art in etching of Sir F. Seymour Haden and the art in surgery of Sir Henry Thompson, each supreme in its way, have two sides only on the surface; they are identical at the bottom. And we have seen this in past times, sometimes to the loss of surgery, sometimes to its gain. The world lost a great surgeon in Leonardo Da Vinci and gained a great painter; it lost a great artist in Sir Charles Bell and gained a great surgeon.

Now of this art of surgery, where and what is the teaching? Where and who are the masters who guide and correct the young artists in their work? It may be said at once of masters there are plenty, but they do not teach. There is no real teaching of the art of surgery in our country. Here and there a favoured few, house-surgeons and assistants, are permitted to pick up what knowledge they can by looking on and by helping; but of personal guidance in the actual work on the living subject analogous to the guidance given in other arts, we in ours know nothing. We have to teach ourselves by experience alone. Think what this would mean in art training. It would mean that to paint a thousand portraits is the only way to become a first-rate portrait painter; to model a thousand figures is to become a perfect sculptor. It means in medicine that the midwife of 5000 experiences is more to be trusted than the obstetric gold medallist of London University who can boast of only 50. And note this, further. The young sculptor may with impunity make and break figures to his heart's content; the young surgeon, in learning his art, is not supposed to damage or destroy human beings. Artists, mechanics, and craftsmen of all sorts learn their work in the workshops or studios with a master to correct their faults and guide their efforts. Surgeons alone have, unassisted, to grope their way to excellence in their art. In his science the student has guidance enough in all conscience, and in his note-taking and his dressing he is sharply looked after. But he is severely left to his own devices to pick up the technics of his craft. Is this right? That the art of surgery is teachable there can be no dispute, that it is worth teaching is still less disputable. Why, then, is it not taught? The art can be taught in only one way, the way of teaching all the plastic arts. The young artist must, while beginning the practice of his art, have a master at his elbow, a master who will criticise his methods and correct them, who will guide him in the use of his hand, his eye, and his instruments; who will in the fullest sense make him his pupil and personally lead him on, step by step, towards such excellence in the art as he himself has acquired. In no way do I seek to detract from the value of such knowledge as is got in the class of operative surgery, so called, or on the benches of the operating theatre. As a step between anatomy and surgery, the performance of operations on the dead body is of supreme value; it is, indeed, indispensable. It is the first step towards operative surgery, but it is not operating. For instruction in the living art of surgery, attendance in the operating theatre is of little value. The student sees little, and that little with uninstructed eyes. The student of surgery is just as likely to learn his art simply by attendance in the operating theatre as is the student of the violin to become a true artist simply by going to concerts. In both cases to learn the art the student must work at it; to attain to the highest degree of excellence he must work under a master.

If, then, the art of surgery is to be perfectly taught it must be taught to the young surgeon actually operating. And here is our first difficulty. We cannot teach the art to unqualified men; students are not permitted to operate. We must begin our teaching after the student is qualified. As things are at present this is not easy. Our pupil of yesterday is our colleague of to-day; when qualified he is supposed to be our equal, and therefore above our criticism. It is difficult to imagine a skilled senior in the operating theatre calling attention to the faulty methods of his young colleague; it is impossible to conceive him pushing him aside and showing him how to do it. And yet, if the living art is to be taught at all, this personal way is the only way. Why should the young surgeon more than any other young artist fear tuition in the operating theatre? Possibly the presence of young students, of whom he is probably a teacher, would be a chief objection. Then, if the humility of him who truly seeks after knowledge is not forthcoming, must the young student be excluded from operations at which open instruction is given to the young surgeon. And it resolves itself into this, that the master has a few qualified pupils and is present at the operations of these few. He guides them in their work, he points out faulty methods, he advises and perhaps assists, and this he does in the presence of all his pupils. As a matter of fact, I doubt if the young surgeon would fear tuition in public, if such tuition were given honestly and courteously by a man whom he could look up to as a master. There is no method of education in handiwork that can surpass fair criticism of the work before compeers. The mere pointing out of faults calls attention to details which the average onlooker would fail to see. But criticism is not all fault-finding; it calls attention to excellences as well as defects. The pointing out and correcting of faults, and the praising and holding up for imitation of any special excellence in operating might well, to the advantage of all and the discomfort of a very few, form part of the routine education of the hospital operating theatre. What would you or I or any surgeon amongst us not give to have a Liston or a Syme at our elbows to teach us? Who that really has his soul in his heart could fail to welcome an opportunity for such tuition? And why should we not have it? There is no lack of capable teachers, and surely they could easily be induced to teach. I can conceive no finer ending to a great surgeon's career than to devote it to the education in his art of the men who are to succeed him. He has handed over his legacy of science to all mankind; he has laid aside his own knife, but his art will survive him, for, in the band of pupils whom he has trained in their work, his legacy of art will be as enduring as his legacy of science. Am I suggesting a return to something like the old apprenticeship? Well, what then? The art of surgery is no new thing. Probably as an art, pure and simple, it was more perfect in the apprenticeship days of fifty years ago than it is to-day. For then, before the days of anæsthesia, the highest art was not only a saving of life, but a merciful saving of suffering. If we have lost this stimulus to perfecting ourselves in the art that pain to the patient gives, we have still the saving of life to urge us on, and that is an even greater stimulus. How a surgical artist like Robert Liston, the greatest probably the world has ever seen, trained as he was in the cruel and exacting school of pre-anæsthetic days, would have revelled in all our "otomies," "ectomies," and "ostomies" of to-day! To imagine Liston, trained in

practice as he was, living amongst us now, and having before him the science we possess, is to realise my ideal of the surgeon-artist. If we did have the old apprenticeship back amongst us it would be for surgery a something. It would be at least better than the nothing we have now. But I am not asking for the old apprenticeship; I am pleading for something higher. We speak of apprenticeship rather as to a trade; I am pleading for pupilage as if to a fine art. I am simply asking for the surgical high art what is freely and abundantly given to all other arts—personal teaching in actual work by competent masters. I make no complaints, and I offer no accusations. British surgery needs no apology. I simply seek to give it one more push upwards. We have reached a high degree of excellence; but we may reach a higher, and one way to this is through personal tuition in the art. We start as physicians; we are educated in the technical arts of the physician at the bedside and under masters. We are likewise obstetricians; here, also, we have personal instruction in the actual doing of our work. But in surgery nowadays, and in operative surgery alone amongst all arts and crafts, we have no genuine personal instruction. If, on this foundation, British surgery has reached the height it has, to what eminence might it not rise if we were careful that every young surgeon were trained in the highly technical and highly important practical art of operative surgery? Detailed suggestions as to how this training might be carried out would be out of place on an occasion such as the present. This matters little; for, if you think as I do, the result will surely follow. But we must fight for our own right hands. We must expect no help from the State. The State, like Providence, helps those who help themselves. When we have shown that we need practical teaching in our art; when we have proved that we can provide it; when, in fulfilment of those powers with which we have been legally endowed, we have created in our teaching centres some working process of practical instruction, then we might ask for more. We might ask to be put on the level of the fine arts, and seek for a Royal Academy of Surgery, as we have royal academies of painting, sculpture, and music. To such an academy a school with teachers would be attached. The school would be a surgical hospital endowed with every known excellence of hygiene and nursing and appliance; the teachers would be those who are supreme in our art; the pupils men, already qualified, who seek for practice in the higher walks of surgery. Do you believe me that this would be good for surgery? Then let us work for it.

And now I have finished. I have spoken of our art solely from the practical point of view, as to how it may be improved in technique—that is, as to how it may confer most benefits on others. I have not referred to any ennobling of ourselves; indeed, I have little belief in it. All arts tend to elevate; this, the ultimate criterion of true art everywhere, has no more truth for the surgical than for the painter's or any other art. In the highest flights of the imaginative faculties—the faculties that make poets, and inventors, and musicians—we do not stand very high. Yet a previous generation can point to a surgeon who practically founded a new science; this generation can point to a surgeon whose purely surgical discoveries have created new laws for the preservation of health and the cure of disease. These are high aims, but they are not the highest. Our dealing is with the body; the painter, the poet, and the sculptor deal with the soul: their goal is higher than ours.

Art thrives on appreciation. There is no academy to bestow gold medals on the surgical artist; no crowds gather round to admire his finished work. In the finest and purest sense the surgeon's is an art of the home, almost of the fireside; it does not appeal to the populace. The surgeon's highest reward is the moistened eye and tremulous grip of the hand which bespeaks thankfulness for the breadwinner restored to the home, the mother to the children, the child to the parents. His science may be trumpeted far and wide; his art is known to his own small circle; it has little recognition beyond, and we let it die with him. The art of the surgeon has its best reward in blessings, not in fame. It has its punishments, too, for surgery is a terrible taskmaster. The punishment is not a mere heart-burning over the rejection of a picture by an academy; it is a heart breaking over the losing of a life by our own work. Our worst punishments are self-inflicted; for every failure, even if incurred in the leading of a forlorn hope, means a personal criticism of a cruelty and thoroughness which no outer criticism can match—a criticism that condemns without chance of condonement, for our own conscience is judge. These things I hint at, but do not dwell upon. They are there, however, and their presence makes us better surgeons, and, I trust, better men. More than 500 years ago Guy de Chauliac, the greatest of the surgeons of the Arabic period, wrote these words: "Knowledge is created by additions; the same man cannot lay the foundation and perfect the superstructure. We are as children carried on the neck of a giant; aided by the labours of our predecessors we see all that they have seen and something beyond." These words might have been my text. The burden of my theme has been to hold fast and care well for the old truths: in our love for the new science not to forget the old art. For in autumn the leaves fade and fall first from the youngest branches; they linger longest green on the old wood. Let us graft our new truths on the old stock; so will they live longest and flourish most.

An Address
ON
PREVENTIVE MEDICINE.

Delivered before the Congress of the British Institute of Public Health, held in London, on July 26th, 1894,

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GENTLEMEN,—In venturing to accept the position of President of the section of Preventive Medicine of this great Public Health Congress, I am not only sensible of the high honour which has been conferred upon me by my selection for the post, but I am also keenly alive to the responsibility which attaches to it—so much so, indeed, that I have had very considerable misgivings as to my sufficient qualifications for the office. For I cannot but feel that I am probably speaking in the presence of many public health specialists, and of many gentlemen whose almost entire professional thoughts and working life are given up to the study and consideration of those important subjects which it is the business of this section to discuss, and, if possible, to advance. Being a former student of King's College, I cannot but confess to a great satisfaction in the fact that this public health Institute is holding its annual meeting within these walls. And I feel sure that we all recognise how appropriate it is that this Congress should be held here, where not only is our learned President, Dr. William Smith, one of its talented professors, and the able secretary of this section, Dr. Allan, the lecturer on Hygiene, but where the very name—King's College—is just now most suggestive of activity in the cultivation of this branch of learning. A college that is the professorial home not only of the gentlemen I have named, but also of Lister, of Watson Cheyne, and of Crookshank, is indeed a special educational centre of sanitary light and leading; and no more appropriate locality for discussing the problems of the science of public health could, I think, have possibly been found than these halls, which are contributing so largely to the advancement of this special form of medical study and knowledge. Were any further introductory words here desirable they would be found in the congratulation which I am sure we all desire to render to our learned President for the most able and comprehensive, as well as suggestive, address which he delivered to us this morning.

When I first began carefully to think the matter over, and tried to realise what was meant by this phrase of "preventive medicine," I must confess to having experienced some astonishment at the comprehensiveness of the term, as well as to having been a little puzzled as to its exact limitations so far as the present occasion is concerned; for, although in its popular sense it signifies mainly the prevention of zymotic disease, yet a moment's consideration shows that it now embraces not only all diseases due to hurtful industrial occupations and to injurious modes of life and surroundings, but also the etiology and preventability of many other classes of diseased action. For the science of the prevention of disease is no longer what it was even a few years back. It has grown into a great and absorbing topic. Its consideration is now a large and increasing part of the duty of the medical profession; and the old adage "prevention is better than

cure" has become more and more a fundamental doctrine of modern medicine. It is scarcely too much to say (with Professor Draper of New York) that the true function of medicine has in latter years been shown to be rather to prevent than to cure disease. As a practical fact, "preventive medicine" has now become a very wide branch of study, and the new and unexpected light which has lately been thrown upon the nature and causation of some of our hitherto obscure diseases and degenerations—nay, possibly upon the causes of senile decay itself—has expanded our views and hopes of the possible preventability of many disorders hitherto regarded as inevitable and hopelessly destructive. The discovery of the cause of myxœdema, for example, and its relief by supplying artificially a lacking nutrient material, have opened up a wide vista of possibilities in the future; and there is great hope that further researches in this and analogous directions, such as have been carried out by Brown-Séquard and others, will bear further fruit—possibly of a startling and unexpected kind. Still, with however much satisfaction we may regard the progress that preventive medicine has of late made in many notable directions, it requires only a cursory glance at the tables of the Registrar-General, and to note the many thousands of possibly preventable deaths which they annually record, in order to have this feeling considerably tempered. Much has indeed been done, but we may well say, with the late Dr. Ross, that "we have as yet but touched the fringe" of this department of knowledge, and we must continue (to use Harvey's well-known words) "to search and study out the secrets of nature by way of experiment." This branch of our subject is itself a very wide and comprehensive one, and much time might profitably be spent upon its consideration; but, as a glance at our agenda paper shows that we are expected to direct our attention chiefly to preventable zymotic affections, I forbear to dwell further upon it. Of course, in a short introductory address like this it is not my duty to do more than barely allude to the details of applied sanitary work, or to enter upon the discussion of practical methods which will form part of the agenda of other sections of this Congress and there receive due consideration. My few words will rather be devoted to some general principles, which, I trust, will not be considered too elementary for such an audience.

Of the subjects set down for discussion in this section nearly all are more or less intimately connected with germ or bacterial life, and, therefore, the brief time at our disposal may well be given to a notice or short review of some of the fundamental principles underlying the study of this life in action; and I am the more desirous to do this because this branch of our subject is the one to which I have personally given the most thought and attention. It is of course taken for granted that the fact of a disease being multipliable as well as communicable implies that the material by which it is propagated is a living entity; in the study, therefore, of preventive sanitary science the first and most essential necessity is to obtain as complete a knowledge as possible of the life-history and specialties of the various living germs which create the different diseases. This is confessedly difficult, but until it is known there must necessarily be empiricism and uncertainty in dealing with the problems they create. And it is certainly fortunate that the science and the study of micro-organisms, which are of such recent development, have such a peculiar fascination, introducing us as they do to a new class of life, which, although imagined and speculated upon long ages ago, has only of late years been demonstrated as well as differentiated in proportion as higher powers of the microscope and improved staining reagents have become available. And now, with our increased knowledge, it would appear that micro-organisms play a large and important part in the whole economy of the world's life; it might, indeed, be said that they are with us always and almost everywhere. They start into life almost suddenly and in vast numbers whenever circumstances become favourable, and, just as huge swarms or clouds of gnats will suddenly appear in our gardens on a warm summer evening, so will swarms of these living units appear in rooms, in carriages, and in streets wherever the air becomes what is termed "fouled"—that is, where there becomes suspended in it, derived from the breath or elsewhere, material which will serve as food for these living beings. But, fortunately for us, they are not all pathogenic or disease-producing; in fact, the great majority of them seem rather to be purifiers of the air and veritable scavengers, their sudden appearance merely betokening that conditions have arisen which provide them with appropriate food and so are favourable to their nutrition and existence. An atmosphere shown to be full of bacteria is not, therefore, necessarily demonstrated to be lethal or even injurious in proportion to their numbers; often, indeed, exactly the contrary—a fact which seems to have been sometimes overlooked. And here may I hazard the remark, even though it may seem far-fetched, that, as we know it to be a grand principle of nature that organised beings are always devouring each other, is it not barely possible that some day, when our knowledge of the suitabilities and antagonisms of the various microbes is better and more exact, we may even be able to pit one form against the other, and introduce colonies of the harmless ones to eat up the maleficent, thus providing a new and efficient method of germ-disease prevention?

Although epidemics of disease due to pathogenic germs pass away or disappear, it seems probable that many of the threatening vital entities to which they are due are constantly with us and around us, lying dormant or latent for varying periods of time, and only starting into fresh, active vitality when climatic or other influences renew their vigour, or, on the other hand, when these conditions happen to render the human or animal body less able to resist their attack.

It being understood that zymotic and allied diseases are absolutely due to the invasion of the animal body by microscopic seeds or germs, we are in the general position that, on the one hand, we have these living germ-seeds existing elsewhere and liable to fall upon or be introduced into the human body, and, on the other hand, we have the various animal surfaces upon which they fall more or less unable to prevent their remaining and living and multiplying upon them. We well know that a healthy and vigorous surface is often able to resist their attack; the fight between the invaders and the tissues or their phagocytes takes place, but the latter eat the germs, or these die of inanition and are cast off. (Hence the importance of what is called "good general health.") But in other cases the animal body is unable to prevent their successful invasion. They establish themselves and become essentially parasites upon their new hosts. And I would express the strong opinion that all those zymotic disorders are purely and simply parasitic affections and must scientifically be regarded as absolutely of this character.

I suggest, if so, that the doctrine of actual local parasitic growth in these infective diseases cannot be kept too constantly before our minds. It appears, indeed, to be the keynote of their explanation, of their prevention, and, above all, of their treatment. The more we look at the facts the more do we see that, whatever may be the secondary effects, arising as they do largely from the toxic products or secretions, in all of these diseases—whether affecting the skin, the mucous membranes of the throat, the lungs, the bowels, or other parts—the first beginning must be purely local. In many of them, no doubt, this primary stage, before infection of the blood or general system, is often very short; but even as regards the most formidable of them—small-pox itself—it seems probable, as has long been thought by many, that the seed germs alight upon the skin and exposed mucous membranes, and there primarily fructify; and, if so, this disease is at its commencement as truly local and parasitic as its diminutive, vaccinia, or cow-pox, in which, it may be recalled, we never find multiple pocks or vesicles to spring up on other portions of the skin as secondary or systemic results of the inoculation. In this view variola differs only from any of the coarser local cutaneous diseases in the fact of its being more acute, more virulent, and more productive of absorbable poisonous products. To carry this line of thought one step further, who now doubts that typhoid fever is essentially a local growth in the glands or follicles of the intestine; that the rhonchus and sibilus of the so-called bronchitis of influenza are but the signs that its bacillus is growing and developing and causing the secretion of mucus at each spot where these sounds are heard; or that the tonsillary film of diphtheria is the indication that the seeds of this disease have selected this spot for their special development? With regard to influenza, the fact that Dr. Klein has found the bacilli of this disease to be freely present in the mucus of the mouth, the bronchial tubes, and air vesicles, but only in very rare instances in the blood, strongly confirms, I think, this view. And does not the same reasoning apply to scarlet fever, to measles, and to other similar diseases? Such being the facts or assumed facts of the case in this special class of

disease, sanitary preventive science necessarily consists largely of action upon the three following principles: (1) the prevention of the life of these disease-producing germs in their original or special habitat; (2) their destruction in the media which convey them from one place of growth to another; and (3) the securing of the human body from their attack, or from the consequences of this. On each of these I will, with your permission, say a very few words.

1. The first point, the prevention of this injurious germ-life, embraces the daily routine and application of recognised sanitary and engineering processes as regards disinfection, cleanliness, the prevention of overcrowding, and the provision of fresh air, pure water, and proper houses—the latter with especial reference to a sufficiency of sunlight, the importance of which is shown by recalling the now known fact that light alone is capable of killing some bacilli, such as those of anthrax. Upon these it is not our province to enter, nor upon the consideration of the management of laundries, workshops, nursing attendants, tramps, or isolation hospitals. Our special regard should be either as to the modes of living of the individual germs or spores as regards the chemical and vital as well as thermometric and barometric conditions under which they thrive or die. For example, in developing influenza, a disease whose bacillus certainly prefers low temperatures, I have personally observed the abortive effect of considerable heat, such as is obtained by sitting close to a hot fire and so raising the temperature of the air inhaled—as it were scorching the breath.

As regards disinfective processes I would only quote a sentence from a recent article in THE LANCET, which says truly: "The idea of cutting off the prime etiological factor by sterilising whatever is supposed to contain the infective agent is at present the main standby of preventive medicine." These processes mainly refer to watery and solid media; but "Mr. Henman has even lately tried to apply this principle to the infected air of fever hospitals before it escapes from the buildings."

The proposal to disinfect and purify impure water by electrolysis is, as we all know, now engaging much attention.

2. As regards the second point, the mode of conveyance of these seeds of disease, under ordinary circumstances many of them are well known to be only conveyed by water or other fluids, or by solid media. As regards aerial diffusion, a distinction was long drawn between contagion and infection, owing to the want of careful consideration of the conditions; but this is now known to be merely a question of the volatility of the spores or seeds. Probably every germ is infectious through the air under certain conditions, these being chiefly variations of moisture or dryness, of temperature, or of the mobility of the atmosphere. It is now well known that the bacillus of tubercle, which appears scarcely to be communicable in its moist state, becomes transmissible when dried, and so made capable of aerial locomotion; and there is strong reason to believe that the germ of typhoid fever, which is usually looked upon as contagious only—i.e., communicable by contact—may be conveyed by means of dry sewer or other air in a state of motion.

In those diseases whose germs are known to be readily communicable by aerial infection there is a great variation. Some of these must be extremely light and volatile; and they certainly can remain suspended in the air for a considerable time, ready examples of such being measles, small-pox, scarlet fever, and typhus fever, whose distinctive presence in the air of a house can be easily detected by the sense of smell, often at a considerable distance from the body from which they emanate (and I am glad that we are to have a special paper on this subject in connexion with the convection of small-pox). Other infective poisons appear only to be communicable at short distances, and in these cases, doubtless, the germs are more ponderous and so quickly sink to the ground. But the general fact remains that some of them can either remain for long periods in the atmosphere or can be easily raised again after subsidence by current air; and in this way the occasional rapid spread of epidemics can be well explained, although not easily demonstrated. In the case of influenza, whilst allowing for the undoubted spread of the disease from person to person, it seems highly probable (and I have ventured to express this opinion. In my little book on this subject) that such aerial suspension of the infecting germ is almost necessarily also present.

3. Then, as to the third point, the principles of the protection of the patient attacked by one of these parasitic diseases, the microbes having already reached him. In the very first stage, when it is still local, and in which alone such disease can be really prevented, it is evidently useless to try to combat it by any internal remedies; and, although the period before blood infection may be short, yet this is the only time when we have any chance of real preventive success. Yet it is quite possible that after exposure to such a disease as diphtheria and probable contagion, an immediate careful cleansing or wiping of the fauces, and especially the tonsils, with a sponge moistened with antiseptic fluid might prevent its development. And so, even with small-pox, the same process of cleansing applied to the skin, the mouth, and other exposed surfaces might well be expected to afford a chance of escape from the disease in those cases where the better remedy of the protective use of vaccination was repudiated.

It will not be thought out of place here, I hope, to express my belief in the local origin and commencement, and therefore possible preventability, of many other diseases which were long regarded as constitutional or general; and especially do I hold this opinion with regard to cancer, whether this disease be regarded as due to the invasion of psorosperms or other parasites, or whether it be considered as the result of diminished inhibitory nervous influence upon growing or partially separated epithelial cells or nuclei. It is quite true that cancer "runs in families"; it is quite true that we meet with cancer districts, and also with what have lately been called "cancer houses," as well as with cancerous individuals. But the spread of this disease would be equally well accounted for by certain individuals possessing tissues which afford a specially suitable soil for the growth of a parasite, or, on the other hand, which are ill supplied with inhibitory force, this kind of tissue being thus the hereditary element in cancerous families. I fear that cancerous diseases are distinctly increasing in frequency, at least in my district, and I would hazard the suggestion whether a diminishing vigour of the population, through the survival, not of the fittest only, but of a large proportion of weakly individuals, as is the case in the present day, may not be a large factor in this apparent increase. The same line of argument as above necessarily applies to tubercle, both as to its originally local implantation and the nature of the so-called heredity of its victims. And this doctrine is now practically and successfully applied to the prevention as well as treatment of this disease both medically and surgically. A further excellent illustration of the value of exact knowledge of the intimate nature of diseases, and especially of parasitic diseases, in enabling us to prevent their spread, is seen in the case of ordinary boils, which for a long time were considered to be due to a diseased state of the blood, and as requiring treatment by wine and tonics. As we all now know, they are but local parasitic growths of the skin, strictly limited to the spots where they arise, and propagated purely by contagious inoculation from one to the other. Formerly an attack of this disease was the signal for a series of successive and miserable small illnesses, often extending through many months; but we now know that what is termed "a crop of boils" may be easily and entirely prevented by the careful destruction of each successive incipient pimple as it arises, combined with frequent changes of the clothing. For I have demonstrated in practice that they are thus easily controlled; and, as each fresh boil is but the result of inoculation from a preceding one, the "stamping-out" of the boils and the prevention of a crop of them are now quite within our power.

The study of preventable diseases has already borne such rich fruit that we may well hope for ever-increasing results from the concentration of mind upon this subject now going on, for in addition to what has been already said we may note that in this country malarious disease has almost disappeared through disappearance of the marshy districts where its seeds or spores lived and throve; and we might almost say that the fatal typhus fever has been nearly stamped out by removal of the conditions of filth and overcrowding in which it formerly found its breeding-grounds. How nearly, also, have we arrived at the prevention of cholera by discovering and neutralising the media in which its comma bacillus lives and is conveyed. And what still expanding hopes for the future in the preventive direction do we not derive from a knowledge of what has already been achieved by Pasteur, Koch, Klein, and others in the direction of rendering the human body immune from attack by the injection of various antitoxines, of which it is sufficient to mention anti-cholerine, anti-diphtherine, anti-tuberculine, anti-anthracine, anti-rabiine, and resisting blood serums. The partial successes

already obtained go far to promise greatly increased results hereafter from this form of abortive prevention; and, indeed, what sanitary science and what preventive medicine have already done on a large scale may well be gauged by the reduction which has been effected in these latter years in the average annual mortality of this country. A reduction of from 5 to 7 per 1000 annually is indeed a great gain both of life and of the diminution of sickness. We need not therefore be surprised that the minds of scientists, of medical officers of health, and of municipal authorities are full of the subject, and that bacteriology has grown and flourished as a science, specially important because enabling us to understand the insanitary facts we have so long had to deal with. The importance of the whole question of sanitation and public health may be further estimated by the vast sums of money now being expended by corporations and other bodies upon it. For example, in my own city of Norwich, the town council is at the present time expending large sums upon new sewers, public baths, the isolation hospital, and other sanitary matters, and in many other localities similar large engineering works are being carried out. Even in the general community antiseptics, germs, and sanitation are in every one's mouth as familiar household terms, and, commensurate with this, the force of public opinion is being felt and exerted more and more in the direction of public health preservation. Through the efforts of medical and scientific sanitarians, aided by the powerful influence of the medical press, various public health enactments have of late years been made, and inspectors of the Local Government Board have been appointed. This truly constitutes a great step from the time, not so long ago, when the late Dr. Rumsey first forced from a reluctant Government the avowal that some duty did really devolve upon the State in regard to the general and public health of the community. But, although we have now for the first time a medical man holding an office of importance in the Health Department of the Government, and more or less superintending the working of the public regulations of notification of infectious disease, its isolation, and disinfection, yet it is a great question whether the time has not arrived when this great department of State really requires a separate Ministerial head, one whose motto, like that of this great Institute, should be "salus populi suprema lex," and whose Ministerial influence should more completely encourage, promote, and coördinate the scientific and practical efforts now being made throughout the country to reduce and mitigate the evils which epidemic disease and preventable disorders are producing in our midst.

And now to conclude. We will venture to hope that the result of this Congress will be to add some little to, or at least to consolidate, the knowledge available to the world in the department of sanitary and preventive science, and that further improvements in practice may result from the papers and deliberations of this and its other sections.

NEUROLOGICAL FRAGMENTS.

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No. XI.

CEREBRAL PAROXYSMS (EPILEPTIC ATTACKS) WITH AN AUDITORY WARNING; IN SLIGHT SEIZURES THE SPECIAL IMPERCEPTIONS CALLED "WORD-DEAFNESS" (WERNICKE) AND "WORD-BLINDNESS" (KUSSMAUL); INABILITY TO SPEAK AND SPECTRAL WORDS (AUDITORY AND VISUAL).

IN the paper quoted in the last note, *Brain*, July, 1888, p. 191, I write: "In another patient, who called his attacks 'losses of understanding,' there was clearly both 'word-deafness' and 'word-blindness,' with retention of ordinary sight and hearing. This patient's attacks used to begin with a warning of noise, but he has recently had his 'losses of understanding' without that warning." I now give details of this case.

A man, aged twenty-eight, consulted me on Sept. 28th, 1883, for epileptic fits, or, as I prefer now to say, cerebral paroxysms; he had been subject to them for six years. These attacks only came on, he said, when he was "at his best," and when he was asleep or when he was composing himself to sleep in the day. He had a warning of noise in his head, and then "hearing goes" and he "loses his senses." Tongue bitten. But besides these attacks of severe fits he had, to use his words, "partial and transitory losses of understanding"; these were, of course, attacks of epilepsy (cerebral paroxysms) also, although slight ones. The interest of the case is in the slight seizures. When I first saw him he had a "warning" of the slight seizures by a buzzing noise and became "deaf," but yet he explained that neither hearing nor sight was affected, but that he was unable to understand what was said to him and to express himself, and he was, as we shall see, unable to read. (At later visits he told me that in his slight seizures he no longer had a "warning" of noise.) I give several accounts of his slight seizures, which he called "losses of understanding," written for me by himself. (The words within square brackets are my interpolations.) The first was received Dec. 8th, 1883. "I suddenly find myself unable to understand either the words or the meaning of words that are uttered by anyone or that I may be reading. At the same time, whilst possessing no control whatever over my thoughts, yet certain thoughts occur in the mind relative to my then present state, and a word generally develops ["spectral word"] and I seem to understand the state of affairs. Both the thoughts and the word, I believe, are always the same, but not always so distinct. All the foregoing lasts about half a minute, and on some occasions continues to repeat itself for some hours at about ten or fifteen minutes' interval. During each of these attacks the suffering is dreadful, and I am unable to console myself with any thoughts of my own, not having any power over my mind. When these repeated attacks [batches of attacks] are about to pass off I think each one becomes less severe, and I seem to recover more of my normal state in each of them towards the last. I can never account for the suffering. It is not physical pain, neither is it the sight of what I see in my mind's eye."

At a later date he gave me the following, his second, account. "The loss of understanding, as described in my first paper, I divide into three states (no 'warning' of noise in any of them now). 1st. Loss of understanding accompanied throughout partly with certain thoughts and partly with the appearance of words [spectral words]. 2nd. Loss of understanding accompanied only part of the time with certain thoughts. 3rd. Loss of understanding only. The first state is the worst, and the following is a description of it. Simultaneously I am seized with loss of understanding accompanied with certain thoughts. I am certain (as far as it is possible for me to be when in this state) that these thoughts are always the same, always have reference to my then present state, and the understanding always gives its assent. In short, it takes the form of an interior conversation [spectral, auditory, words—i.e., words as if spoken to him] carried on independently of my will. These thoughts continue until I am just about to recover my normal state, when they take the form of an actual [visual] word, the letters of which I see distinctly [in reply to a question he said 'as if printed'] in my mind, and which, if I have pencil and paper in my hand, I can write down. I have proved that, at the time of seeing the word in my mind and writing it down, I simultaneously see one word and write another." At this visit he wrote down for me the "word" he had written on one occasion; it was "cluanly." He said it was the same "word" he left written for me at his previous visit. At the present visit he told me that in the "losses of understanding" he was able to see and hear, but unable to understand, what was said to him, and to utter anything intelligible to himself (unable to speak internally, I suppose this meant, because he said he could not utter anything aloud). He did not become insensible. In these slight seizures he had no "warning" of noise, but had that warning in the severe attacks to which also he continued subject.

The following is a third account, written 1888: "When seized with the loss of understanding I became totally unable to understand either the words or the meaning of the words which are being uttered, and I am totally unable to utter any word that would be intelligible to myself. Consequently I differ from an illiterate man, because *he* [underlined in original] could repeat words or sentences which were spoken to him, even if he did not know the meaning of them. But I am unable to realise a single word and consequently unable to express one. *If I am reading when seized I become unable to realise any of*

the words which are before me; but neither sight nor hearing is affected at that moment." The patient's statement in the part of the foregoing I have italicised is not discrepant from the statement in his second account that he could see "an actual word," for that "actual word" was a visual spectral word, a word quasi-parasitical in him. The following, a continuation of the third account, shows clearly what he meant: "When the mind is in its normal state I can put the letters of each word that is being spoken in review before my mind—viz., I can mentally see and spell each word that I am speaking; but when the loss of understanding comes I am unable to do this." He told me that on one occasion of a slight attack someone called, and he could only point to a chair and left the room to recover. He said there was no defect of consciousness. On another occasion he went to a drawer, "saw in his mind" two things which he wanted, and on recovery found that he had got something different. He avers that he was not then defectively conscious. He wrote down the following "words" which he "had in his mind" during a "loss of understanding": "luantez," "owlu," "olu." When on recovery he looked at them he was disappointed, for "in his mind it appeared totally different."

I never got any decisive evidence of one-sided symptoms. On Oct. 13th, 1884, he told me that in the week before he had "sensations" in the soles of both feet, more in the left; that it "went up the legs" more in the left, and in the hands, left the more. About an hour before the last *severe* fit (last before the visit, Oct. 18th, 1884) he had spasm from the left hand, up the arm, and across to the jaw; stopped by pressure on the wrist. On Oct. 15th, 1885, he spoke of "a nervous state," lasting from day to day; it was sometimes accompanied by a "terrible dread"; "the worst state of things that could happen to him relative to disease comes upon him." I suppose he meant that "from day to day" he had this "terrible dread" occasionally and temporarily, for he said it was too dreadful to last long; it came on suddenly when the "nervous state" was on.

Since the foregoing was written I have (July 5th, 1894) heard again from the patient. I am glad to say that the severe attacks are much less frequent; he is still unconscious in them. He continues subject to the slight seizures in which he is conscious. He speaks of his condition in them as "an unnatural consciousness, because there is a return to the natural state of consciousness." The severity of the slight attacks has greatly lessened. He writes: "I have as good as no appearance of words," and tells me that his attacks cause him very little suffering compared with what they did. This case is a very complicated one. For the present I refrain from an attempt to analyse its symptomatology.

LEFT HEMIPLEGIA AND MOTOR APHASIA WITHOUT COARSE BRAIN LESION.

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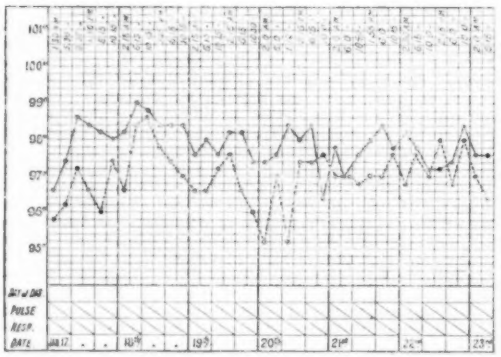
THE features of the case I am about to relate are so remarkable as regards the absence of gross lesion in complete hemiplegia and motor aphasia of one month's duration as to render it worthy of record.

The patient was a woman aged sixty who had been under my care for some years suffering from symptoms of heart disease. In 1891 the heart's apex was in the sixth space, an inch and a half outside the nipple line. Over the aortic cartilage there was a loud blowing systolic murmur, which replaced the first sound and was conducted upwards, and also as far downwards as the fourth intercostal space. There was also a systolic apex murmur conducted into the axilla and apparently of mitral origin. The urine contained no albumen. In April, 1893, she suffered from symptoms of cardiac asthma, which were soon relieved, but returned in December, and the dyspnœa, which at first was paroxysmal, was now constant; the pulse also failed, becoming small and rapid, and there was some œdema of the feet. She made a good recovery from this attack after a fortnight's rest in bed under appropriate treatment; but a few days after she was able to come downstairs she contracted influenza, which was prevalent at the time. The attack of influenza was accompanied by general bronchitis, with a few scattered small patches of consolidation over the lower lobes of both lungs posteriorly. There was marked failure of the heart's action; the pulse was 120 to the minute, weak, and very irregular; the heart sounds were faint and the cardiac dulness was increased transversely, so that it extended one inch to the right of the sternum and half an inch beyond the left nipple line. In addition to the murmurs previously described, a faint systolic murmur was now audible over the ensiform cartilage. There was great prostration. She did not rally for some time after the attack, but remained in much the same condition until the second week in January, when the pulse somewhat improved, and she seemed to have gained a little strength. On Jan. 16th, 1894, she went to sleep at 11 P.M., after a fairly good day. At 1 A.M. the nurse found her breathing stertorously and unable to speak. I saw her at 1.30 A.M., and she was then conscious, but unable to speak or to protrude her tongue; the head and eyes were turned to the left, the mouth was drawn to the left, and the right arm and leg were flaccid and powerless. The temperature was 96° F.; the pulse was 112, weak and irregular; the respiration was 24 to 30, deep and laboured, but not stertorous. The pupils reacted well, were equal, and of normal size; there was no involuntary passage of urine or fæces. The plantar reflexes were very brisk; the knee-jerk was not obtained (in lying posture). She was unable to swallow. After being restless for one hour, with twitching of the muscles of the left side of the face, she fell into a sound sleep. On the 17th she was a little better, but there was no return of power; she was drowsy, but conscious; she put out her tongue to the right. In addition to paralysis there was loss of sensation to pin-prick over the right hand, forearm, arm, and face, but not over the right side of the trunk or over the right leg. She could now swallow. She said "yes" to every question indifferently, and once said "I can't spare" for "I can't speak"; this word "spare" she repeated several times as a kind of recurring utterance. The abdominal reflexes were active on both sides; other reflexes as before. She passed her evacuations into the bed. On the 19th she was only able to say "yes," which she replied to every question; she made no spontaneous attempts to speak; the deviation of the head and eyes had now passed off. Motor paralysis was the same. Loss of sensation now took the form of complete right hemi-anæsthesia, affecting the conjunctiva and mucous membrane of the right side of the mouth and nose, together with the cutaneous surface. The sense of smell was lost on the right side, and that of taste was doubtful. She could not protrude her tongue. On the 22nd she looked better, but the attendants said that she took very little notice of anything unless directly addressed, and apparently did not recognise her friends' voices. She said "yes" to everything with unvarying intonation. She seemed to understand printed words, but not writing; she recognised the uses of some objects, for she used her handkerchief naturally; she appeared to recognise a watch, but when a fan was placed in her hand and she was asked to show its use she made no attempt to open and use it. Apparently she understood what was said to her, at any rate in part. There was still incontinence of urine and fæces; the paralysis remained the same, except that she could move her toes slightly. She could not protrude the tongue, which lay in the middle line, but when asked to show it she promptly opened her mouth. On the 24th sensation to pin-prick had returned to some extent over the whole of the right side, but was still deficient. She seemed more alert and intelligent, understood what was said to her, but constantly answered "yes." She now, however, appeared to know when this answer was misplaced, and shook her head and looked annoyed. She now also recognised objects and their uses. She could not repeat words after me and had, in short, complete motor aphasia. On Feb. 6th one and a half pints of serum were removed from the left pleural cavity.—On the 8th she was brighter; she could read and appeared to understand what was read to her and what was going on around her. She could now say "yes" and "no," but the latter not always correctly, also "thank you," and "nice" of her dinner, but this was the extent of her powers. She could not put out her tongue, and except for some slight movement of the toes there was still absolute right hemiplegia, the mouth being strongly drawn to the left; there was still deficient sensation over the right side. The muscles were flaccid without a trace of rigidity; the knee-jerks were not obtained (lying down); the plantar and abdominal

reflexes were active and equal on each side. The incontinence of urine and fæces remained the same. On the 16th she was seized with a violent attack of hæmoptysis and died a few hours afterwards.

A temperature chart is appended, which shows the depression of the body temperature at the onset of the hemiplegic attack, and that the temperature, taken in the axillæ and groins, remained from one to two degrees lower on the unparalysed than on the paralysed side for nearly a week afterwards.

Necropsy.—Permission was obtained to examine the head only. There was about the normal quantity of cerebro-spinal fluid; the longitudinal sinus contained a little dark (post-mortem) clot. The membranes were healthy; the arteries at the base of the brain, the basilar, middle cerebral, and those forming the circle of Willis, showed only a moderate degree of atheroma. They were all quite pervious; the middle cerebrals and their larger branches were opened with fine scissors as far as they could be traced, and the basilar and its branches and the other arteries were opened as far as possible, but none of them contained any clot and their channels were quite free. The cortex cerebri and convolutions were healthy. The second and third frontal, ascending frontal and parietal convolutions were particularly examined



The temperature on the right side is indicated by the line that generally occupies the upper position.

and were of normal appearance and consistence. Transverse sections were made from before backwards right through the cerebral hemispheres, at distances of about one-third of an inch, but no lesion of any kind could be found. The substance of the left lenticular nucleus was thought to be a trifle softer than that of the right, but this was doubtful, and both were quite healthy in appearance. The internal capsules and ventricles were normal. The sections were carefully examined with a strong lens, but no abnormal changes could be seen. As a whole the brain was a trifle pale. The cerebellum, pons, and medulla oblongata were normal, as were also the bones of the skull. The cranial nerves were healthy. There was thus no coarse lesion found after a searching examination of all parts of the brain, for the slightly softer consistence of the small area in the region of the left lenticular nucleus was so doubtful that no importance could be attached to it, and I considered it to be a post-mortem change.

To recapitulate, the case was one of right hemiplegia with partial right hemianæsthesia, motor aphasia, and incontinence of urine and fæces in a woman aged sixty suffering from failure of compensation in aortic and mitral valve disease, without any sign of coarse lesion of the brain being discovered after death. The character of the onset of the hemiplegia, quite sudden, without marked loss of consciousness, in a patient with grave heart disease, with symptoms of asystole, indicated embolism rather than hæmorrhage or thrombosis as the cause of paralysis, and the resulting symptoms would be those produced by embolism of the left middle cerebral artery. This was the diagnosis made, and during life I never doubted that we had to deal with organic disease, for the character of the hemiplegic symptoms was exactly that met with in hemiplegia the result of vascular disease, and differed from that of functional disturbance and particularly from that of hysterical hemiplegia, the most common form of functional or non-organic disease, in several particulars. Using the term "hysterical" in the proper and now generally accepted sense, we should expect to find in hysterical hemiplegia that the face was spared, or, if deviated to one or other side, that this deviation was due to spasm and not to paralysis. Although one or two cases of hysterical hemiplegia with paralysis of one side of the face, as in ordinary hemiplegia, have been reported, this is a most exceptional occurrence and perhaps requires fresh confirmation. Then the deviation of the head and eyes to the unparalysed side is not present in the hysterical form; incontinence of urine and fæces, difference of temperature on the two sides of the body, and motor aphasia are also features absent in hysteria. Further points of difference lie in that the loss of sensation over the tongue and the mucous membrane of the mouth was absolutely limited by the middle line, whereas in hysteria this anæsthesia when present is most often general in the mouth or not rigidly limited to one side, in paralysis persisting in absolutely flaccid form for one month; and in that so far as we could ascertain there was no loss of the muscular sense. There happened to be a girl with hysterical hemiplegia and hemianæsthesia in the hospital under my care at the same time, and the difference between the two cases in this respect was most striking, the girl having absolutely no knowledge of any movement or change of position imparted to her paralysed limbs so long as her eyes were closed. As to aphasia this symptom, according to the latest work on Hysteria,[1] may occur in this neurosis, but is rare; the three cases reported are of sensory aphasia. I have once seen aphasia, and it was of the sensory type, present in association with hemiplegia, anæsthesia, and affection of special senses of the accepted hysterical type. The patient was a young man. The symptoms appeared as the sequel of convulsive attacks, apparently hysterical. He suffered shortly afterwards from severe hysterical mania, necessitating his removal to an asylum, and I have always been doubtful how far, under such circumstances, the aphasia could be attributed to hysteria. The presence of motor aphasia in such typical form as in the case which is the subject of this paper is strongly, I think, against the hypothesis of hysteria; and, lastly, there are the family and personal history of freedom from nervous disease and the absence of the convulsive attack, which latter usually precedes the development of hysterical hemiplegia. I should also lay stress on the fact that no one who had seen the patient during life would have entertained any doubt that the hemiplegia was due either to hæmorrhage or thrombosis, for its characters were precisely those met with in such cases. The duration of hemiplegia unaltered for one month practically puts out of court causes such as vaso-motor spasm of vessels, cutting off the supply of blood to a limited area; and if spasm could be maintained so long with such effects it would presumably lead to changes in the affected part gross enough to be recognisable after death. If, however, it could be supposed that such spasm could come on suddenly and be of so long duration it might, as Dr. Bastian has suggested for hysteria, be of sufficient intensity to hinder functional activity, but not enough to entirely destroy the nutrition of the part. Such an explanation, however, seems to be quite untenable in this case. Can embolism have occurred and the clot, or clots, have been washed onwards, or in some way have disappeared before the necropsy? If the paralysis had only lasted for some hours or days this might be a possible explanation; but in the face of complete paralysis of one month's duration, if it were due to embolism there must have been produced effects which could be easily recognised post mortem. I think neither embolism nor thrombosis could cause complete and widespread paralysis, persisting for a month up to the moment of death, without also producing marked softening in the area supplied by the occluded vessels. I fear that I can give no adequate explanation of the pathology of the case, but can only conclude that apparently the whole of one cerebral hemisphere was put out of action by some cause which left no trace of any coarse lesion after death, and that during life the mode of onset and symptoms suggested the occurrence of embolism or, with less probability, hæmorrhage. The action of the influenza appeared to have passed off before the paralysis appeared, and here, again, the character of the onset would exclude the remote effects of the influenza poison.

Clifton.

[1] Löwenfeld: Pathologie und Therapie der Neurasthenie und Hysterie.

ON THE TREATMENT OF TAPEWORM.

BY LESLIE OGILVIE, B.Sc., M.B. EDIN., M.R.C.P. LOND.,
PHYSICIAN TO THE PADDINGTON-GREEN CHILDREN'S HOSPITAL.

ALTHOUGH, in all probability, many physicians repeatedly treat "tapeworm" successfully, it is remarkable that so many patients suffering from this parasite have been treated without success several times. The first six occasions on which I had opportunities of treating this malady I failed to procure the head of the worm, and the proglottides usually appeared again in the evacuations in about three months, showing that the head had not been dislodged, and probably not even detached from its hold on the mucous membrane. In two instances the head must have escaped detection, as the segments did not reappear, but a period of about four months had to elapse before a cure could be pronounced, this being the time sometimes necessary for the development of the mature worm and the passing of the ripe proglottides. During the last seven years I have been successful in procuring the head or proving a cure in thirteen consecutive cases, ten of which had been previously treated. In a fourteenth case, that of a child of four years, the head was not found, and fresh segments only again appeared after an interval of rather over four months. This lapse of time is longer than is considered usual by most authorities, and it shows the importance of waiting for that time before giving a certain opinion as regards the result of treatment. This case had been previously treated by me, but nine months had elapsed before segments were discovered a second time.

I regard it as a case of the introduction of the scolex of another tapeworm six months after the first worm was expelled. In the article on the Entozoa in the new edition of "Quain's Dictionary of Medicine," as in most text-books, and even in the special treatises of Dr. Spencer Cobbold, the question of the treatment of tapeworm is dismissed in a few words with hardly more than the names of the drugs which have been recommended by different authorities. Mr. Bland Sutton, who is the contributor of the article in Quain's Dictionary, gives only the following recommendations regarding treatment by the liquid extract of male fern: "The patient, if adult, should take a dose of castor oil at night, a drachm of extract early next morning on an empty stomach, to be followed in three hours by a small dose of castor oil." I venture to state that this treatment would be of no avail in the majority of cases, whether adult or child. It is not a question of the particular drug used as the vermifuge, but of the method of using it. I have usually found that the cases of failure had been treated in the way described in the article quoted above, and my own experience of this method of using male fern was most discouraging, as I did not find the head, although several yards of the worm were passed.

Some of the cases had been previously subjected to similar treatment, with this addition, that the drachm dose of extract was repeated every morning or every other morning for about a week or even longer. These patients stated that they suffered greatly from nausea, giddiness and faintness, and other toxic effects during the treatment. Not only is such treatment dangerous, but I believe it is perfectly useless. After the first purgative and the first dose of male fern the second dose of castor oil would probably dislodge many feet of the worm by breaking it off near the neck before the parasite was really poisoned, and would leave behind the tiny head and neck still attached to the mucous membrane. The subsequent doses of the vermifuge would be unlikely to act upon this, there being little or no absorbent surface of worm. It is necessary to wait till the proglottides are again passed before dosing with the extract of male fern, as then the poison takes effect on the large surface of the fully developed worm. I have found that a single dose of one drachm of the liquid extract of male fern is not enough, and that a second dose should be given, not next morning, however, but an hour after the first dose, and followed in two hours by a large dose of castor oil. I believe also that castor oil is not the proper purgative to give the night before. Many people who suffer from tapeworm pass large quantities of mucus in their stools, and as in all probability the worm is to a considerable extent covered by this it is important to remove it so that the poison may reach the worm. Sulphate of magnesia with tincture of jalap is better for this purpose than castor oil. Moreover this purgative draught should be given not only the night before but in the early morning, if the first dose has not operated, and before administering the first dose of the vermifuge. In some instances, when much mucus was present in the motions, I have given Carlsbad salts or other saline aperient for several mornings before the active treatment was begun. Two or three doses a day of some alkaline medicine for a week are also of use. I have usually given tincture of jalap with the dose of castor oil two hours after the last dose of the vermifuge even if the worm has passed, as it is well to remove the poison from the bowel after it has done its work on the worm. I have seen no ill effects from this treatment, even in children. I give, of course, smaller doses of the purgatives to children, and usually only a drachm and a half of the extract of male fern divided into two doses. It may be asked why a drachm and a half are not enough for adults also, as it is unreasonable to expect the tapeworm of a child to be poisoned by a less dose than that infesting an adult, but I think it likely that the suckers and hooklets of the head are not so firmly attached to the more delicate mucous membrane of the child. I must confess, however, that my results in children are not quite so good as in adults. With the larger doses in adults the worm is usually expelled with the head still attached to several feet of the segments, while in children the segments seem broken off more near the neck, and the head, therefore, is more difficult to find. I may mention that when the head remains attached to several yards of the segments the vermiform movements are more active, and remain so for some time after the worm is expelled. This was especially noticeable in a case I treated last January, in which a man thirty-six years of age passed an entire worm twenty-four feet in length with the head still attached to the upper three or four yards. He had acted as host to this parasite for about thirteen years, and had been previously treated by others on several occasions.

In connexion with the length of the adult tapeworm I observe that in the article in Quain's Dictionary the length of the fully developed tænia solium is stated as from two to three feet, that of tænia mediocanellata as four feet, and that of bothriocephalus latus as from five to eight feet. This is surely an error, as these figures multiplied by five would nearly represent the lengths as given by most authorities. Ten to fifteen feet is no uncommon length for tænia solium and twenty feet for tænia mediocanellata, the two tapeworms which I have had opportunities of examining.

Of no little importance is the preparation of the patient as regards diet before the treatment. He should eat less than usual for a few days and have a milk diet during the day on which the first draught is to be taken at bedtime. He may be allowed milk puddings, porridge and milk, egg flip, and a little stimulant. The physician should pay a visit soon after the second dose of male fern has been taken, not only to observe the patient, but to inspect all the motions, each one of which should be passed into a separate utensil. In searching for the head it is convenient and less unpleasant to use freely as a disinfectant the liquor potassii permanganatis diluted with water. By careful washing with this the fragments of worm are separated from fæces and the search facilitated.

To sum up then, prepare the patient by dieting, give purgatives suitable for removing excess of mucus at bedtime, and if necessary at seven o'clock next morning; let a dose of the vermifuge be taken at 8 A.M. and another at 9 A.M., wash away the remains of this from the bowel, even if the worm has passed, by castor oil at 11 A.M., and look carefully for the head of the parasite so as to be able to give a certain opinion as to the result of the treatment.

Welbeck-street, W.

A CASE OF SEPTIC OSTEO-MYELITIS, WITH ERYTHEMA MULTIFORME.

BY T. COLCOTT FOX, M.B., F.R.C.P. LOND.,
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THE interesting remarks on the diagnosis of para-epiphysitis from articular rheumatism made by Mr. Edmund Owen in his post-graduate lecture published in a recent number of THE LANCET[1] have suggested to me the publication of the notes of a case illustrating a further source of error not mentioned by that writer.

[1] THE LANCET, May 26th, 1894.

A girl aged nearly fourteen years was admitted into the Victoria Hospital for Children under my care on April 2nd, 1890. I am indebted to Dr. Joseph Arkwright, then house physician, for the following notes. On March 27th the girl, having been quite well till a week previously, was noticed to be slightly lame in the left leg, and she fainted once and vomited twice. The same evening the left knee was swollen. On the 28th an eruption designated "nettle-rash" appeared. On the 30th vomiting again occurred, and the patient could not obtain any sleep on account of pain. On April 1st the right ankle and the right elbow became painful and swollen, and the mischief in the left knee increased. The only family history that appeared of importance was one of rheumatism in the father. On admission to hospital on April 2nd—i.e., about a week after the declaration of the first symptoms—the girl was noted to be well nourished; the tongue was thickly furred; the pulse was irregular in volume, 120 per minute, very small, and compressible; the heart's action was fairly good, without murmur or thrill, and the apex beat under the fifth rib just inside the nipple line, but with the second sound accentuated in the pulmonary area. The trunk and limbs were covered with large and small and very numerous rounded patches of an "urticarial" eruption, slightly raised and flat, with a curved irregular margin. The colour of the margins was of a vivid purplish-red hue, which faded somewhat towards the centres. On the 3rd it was noted that the patient had passed a restless night, with slight delirium and excessive sweating, the temperature being from 102·8° to 101·2° F.; there was no vomiting. The pulse was 120, the respiration 60. The tongue was brown and very dry in the centre; the eruption was rather less vivid; the right shoulder and left knee and ankle were painful. The left thigh measured seventeen inches round, and the right thigh fourteen inches at eight inches below the anterior superior iliac spine. The right lower limb was slightly œdematous, the left lower limb very much so, and the whole of the left thigh and leg was much swollen. The apex beat of the heart was in the fourth space in the nipple line; there were no increased dulness, no thrill, and no endocardial murmur, but a very faint pericardial friction sound. The lungs were unaffected except for a lengthened and harsh expiration internally to the angle of the right scapula. The liver was just felt, but not the spleen. The hypogastrium was rather tender. The urine was of specific gravity 1021, acid, and contained no albumen. From this time onwards the motions became loose; dulness developed at the base of the right lung, with bronchial breathing and friction sounds at the angle of the right scapula, and then just below the apex of the heart. The child had screaming delirium, the pulse was uncountable, and the skin was pungently hot, though sweating. The temperature rose with remissions till it was 108° at 9.30 A.M. on April 5th. Afterwards it was kept within limits by the wet pack. The eruption disappeared on the 6th, and the child died unconscious early on the 7th.

Necropsy.—Ecchymoses on the posterior surfaces of the pericardium were the chief lesions in the heart structures. The pleural cavities each contained a good deal of turbid serum, and the pleuræ were both slightly adherent to the chest wall in front. The lungs were dark and congested, and contained a great many hæmorrhagic infarcts, especially in the lower lobes, in size from a split pea to a small walnut. The liver was enlarged, the spleen almost diffluent, and the pyramids of the kidneys were riddled with small abscesses from a pin's head to a split pea in size. The left femoral vein was plugged with a fairly firm clot at its junction with the internal saphena. The lower two-thirds of the left femur, as far as the epiphysis, were completely denuded of periosteum and surrounded by very thick pus. The left hip- and wrist-joints contained thick pus. Both knee-joints contained turbid serum, and both ankle-joints excessive clear serous fluid. The other large joints appeared healthy.

Remarks.—The occurrence of an eruption of the kind here described is apparently very unusual in the different phases of the septic process variously described by surgeons under such terms as "periosteal abscess or acute necrosis," "acute periostitis," "malignant periostitis," "infective periostitis and acute necrosis," "infective osteo-myelitis," "acute osteo-myelitis," "septic osteitis," "para-epiphysitis," &c. It is well, therefore, to record such a case as illustrating a symptom which may increase the difficulty in forming the correct early diagnosis from rheumatism so urgently called for in this affection. It may be noted also that the age of the girl tended to obscure the diagnosis in the early stages of the process, though the real nature of the malady was very soon apparent. With regard to the form of the eruption present in this case I may refer to the well-known difficulty which occasionally besets us in distinguishing between the papules of erythema multiforme and certain phases of wheal formation. Such an eruption is sometimes called "erythema urticatum." I regarded the eruption present as erythema multiforme, but whether this view is adopted or the eruption be called urticaria is perhaps of no great moment. The point to which I desire to draw attention is the occurrence of an eruption of this kind early in the course of a septic process which may easily be confounded with acute rheumatism unless the observer is experienced. Our knowledge of the conditions under which the eruptions grouped as erythema multiforme may occur has been considerably widened of late years. We must now recognise the possibility of their appearance in any toxæmia, whether the agent be inorganic or organic. Thus we may see such eruptions following the exhibition of various drugs, and a copious literature records their appearance in the course of diphtheria, vaccination, typhoid fever, Bright's disease, various septic infections, pyæmia, malaria, perhaps gonorrhœa, infective endocarditis, and so on. It is true that under these circumstances the eruption is usually scarlatiniform or morbilliform, but in rare instances it closely approaches the erythema multiforme or erythema nodosum type, or may be purpuric. Eruptions of the erythema multiforme type are, we know, far more frequent in connexion with "rheumatism," and this fact may perhaps be made use of as an argument in favour of the toxic nature of the condition known as rheumatism. As to the bulk of the cases in which the eruption of erythema multiforme forms the most striking symptom, their intimate nature has so far eluded our grasp, and very possibly they are induced by a different mechanism. The lesson I wish to make clear now, however, is the fact that such an eruption may be a symptom of various kinds of toxæmia. In comparing the eruptions due to drug administration with those associated with other toxic conditions it is interesting to observe the close parallelism. Thus in 1500 cases of influenza Dr. H. P. Hawkins[2] noted (1) labial herpes, apart from pneumonia, in not a few cases; (2) well-marked urticaria in three or four; (3) vivid redness of the whole skin of the hands and lower third of the forearm, with stiffness and some local œdema, in two lads; (4) nine cases of erythematous rash, consisting of bluish-red, slightly raised spots and patches, mostly on the arms and legs, aggregated about the backs of the elbows and fronts of the knees, but sometimes also on the chest and trunk; (5) two cases of erythema nodosum of the shins; and (6) a purpuric eruption over the fronts of both legs in one man. In the paper on Infective Osteo-myelitis in the St. Thomas's Hospital Reports by Messrs. Makins and Abbott these writers state that a pustular cutaneous eruption was noted in 12 per cent., resembling an acute acne, or in some cases a pustular eczema. They also note that, whilst in 200 cases of general pyæmia the eruption varied in character (papules, pustules, erythema, purpura), in all the osteo-myelitic cases it was pustular. Lastly, in infective or malignant endocarditis we may have erythematous or more commonly purpuric eruptions. Dr. Osler, in his Goulstonian Lectures, refers to Colson's case, in which a papular erythema occurred, and since that date Barth has observed an erythema papulatum, and Goulston and Blomfield have observed a general dusky erythema of the whole body as a complication of infective endocarditis. I possess some interesting sections of a bullous eruption (pemphigoid) obtained from a boy who died in the Victoria Hospital for Children with infective endocarditis.

Harley-street, W.

[2] St. Thomas's Hospital Reports, New Series, vol. xix., 1891.

GRADUATION OF WOMEN MEDICAL STUDENTS IN THE UNIVERSITY OF GLASGOW.—At the summer graduation ceremony of the University of Glasgow held on July 26th the degree of Bachelor of Medicine and Master in Surgery was conferred on women candidates for the first time in the history of any of the Scottish universities. The two lady graduates who have had the honour of leading the van in this new departure are Miss Marion Gilchrist, Bothwell, and Miss Alice Lilian Louisa Cumming, Glasgow. Both have studied in Queen Margaret College, now the women's department of the University of Glasgow, for seven years, three in Arts and four in Medicine, their clinical work having been taken in the Royal Infirmary and Sick Children's Hospital.

Clinical Notes:

MEDICAL, SURGICAL, OBSTETRICAL, AND THERAPEUTICAL.

TWO CASES OF PRIMARY EPITHELIOMA OF THE VAGINA, WITH INFECTION OF THE INGUINAL GLANDS.

BY JAMES OLIVER, M.D., F.R.S. EDIN.,
PHYSICIAN TO THE HOSPITAL FOR WOMEN, SOHO-SQUARE, W.

As a primary disease epithelioma of the vagina is rarely seen. Two cases have come under my care, and it is noteworthy that in both, not only were the inguinal glands infected, but it was the inguinal growths which caused the patients to seek advice. Regarding the lymphatics of the vagina we know practically nothing, but it is remarkable that in the two cases of epithelioma which are here recorded the enlargement of inguinal glands was in both observed first on the left side.

CASE 1.—A woman sixty-two years of age, married thirty-seven years, has had one child. She ceased menstruating at the age of forty-seven. During the last three years she has occasionally noticed a blood-stain on her clothing. Nine months ago a small swelling appeared on the left side, close to the groin, and three months later a similar swelling appeared on the right side. Gradually they have increased in size, but the patient has never experienced much pain in or about them. For one month the left one has been poulticed, and during fourteen days this swelling has been discharging a thin watery fluid. In the left groin there is a small swelling which is bilobed and appears to be of the nature of a cellulitic infiltration of the skin. The upper lobe, which is the smaller, is located in the hypogastric region, whilst the other is placed inferiorly to Poupart's ligament. The small nodule above Poupart's ligament is of about the size of a two-shilling piece, and the skin covering it is ulcerated and of a livid hue. The skin over the larger portion of the bilobed growth is puckered. In the right groin is a similar but smaller bilobed swelling. The skin covering this exudation is intact, but it is livid, and puckered in the same situations as in that covering the left swelling. The anterior wall of the vagina is so extensively invaded by a firm epithelial growth that digital examination is impossible. The patient had never experienced pain in the vagina, nor did she complain of any symptom pointing to the urethra or bladder. There was a malignant family history. One sister had had the right breast removed at St. Bartholomew's Hospital, and I infer it was malignant, as the disease recurred and extended to the neck. Another sister died in St. George's Hospital from cancer of the liver.

CASE 2.—A woman fifty-three years of age, married twelve years, has had one child. She ceased menstruating five years ago. Three months ago a lump appeared in the left groin, and two months later—four weeks ago—a similar swelling appeared in the right groin. They have gradually increased in size, but she complains of no pain. On both sides, in the line of Poupart's ligament, the glands are much enlarged, the left more than the right. The mucous membrane in the anterior fornix and on the upper portion of the anterior wall of the vagina is infiltrated by a growth which has the feel and look of epithelial cancer. The disease has not extended to the cervix uteri.

Gordon-square, W.C.

BACKWARD DISLOCATION OF THE WRIST.

BY H. HOLLIS, M.B., B.C. CANTAB.

A MAN about twenty-two years of age fell from the step of a tramcar while in motion and put out his left hand to save himself. He came to the infirmary supporting his left forearm and hand with his right hand, and complaining of great pain at the wrist. The hand was found to be dislocated backwards. On holding the forearm horizontally the carpus and metacarpus were inclined downwards, and the fingers were partly flexed. Posteriorly the carpus could be felt with a convex upper border lying on the lower ends of the radius and ulna. The styloid processes of the radius and ulna were plainly felt anteriorly. The dislocation was easily reduced by traction on the hand, pain ceasing instantly. No fracture could be discovered before or after reduction. He must have fallen with the hand closed, as the skin on the two terminal phalanges of the four fingers was muddy.

General Infirmary, Northampton.

DIABETES INSIPIDUS, WITH MARKED DIAPHORESIS, TREATED BY JAMBUL.

BY T. L. MORGAN, M.B. EDIN.

A MAN aged twenty-six came under me on Jan. 5th, 1893. He complained that he passed a great deal of urine, and that he could not satisfy himself after he had consumed a great quantity of water. His mother had died of diabetes mellitus, aged fifty-six, but he could not say if any of his relatives were troubled in the same manner. He presented a pale, anæmic appearance, with a small stature, and weighed eight stone. He did not complain, but his appetite at times was voracious; his bowels acted very irregularly. The urine was pale, with no odour, and specific gravity 1005; after standing there was a copious deposit of urates (no hyaline casts), sugar, epithelium, bile, and albumen; the quantity of urine passed on Jan. 5th was fifteen pints. The main interest of this case lies in the fact that the patient perspired freely all through; his mouth and fauces were dry; the tongue presented a congested appearance at the posterior third, and the papillæ were abnormally prominent.

Remarks.—Several times the urine was analysed for sugar, but no trace could be found. I treated the patient with three minims every four hours of the fluid extract of jambul, and, finding his condition improving, I increased it to ten minims every four hours. The first sign of an improvement was that he perspired less frequently, and then the quantity of urine passed in twenty-four hours diminished. I now give the amount of urine passed during treatment. Between the dates of Jan. 5th and Feb. 20th, 1893, the amount of urine passed decreased from fifteen pints to three pints daily. During the first fortnight the dose of jambul was three minims, during the next ten minims, and on Feb. 8th the treatment ceased. Although the watery constituents of his urine have been diminished, the urates do not seem to be appreciably benefited by this treatment. Now, if the cause of this affection is due to the dilatation of the renal arteries, which arises from the defect of the controlling action of the vaso-motor nerves, then, since there is such a decrease in the flow of urine, has jambul a stimulating effect? He has ceased taking medicine for the last five months, and there is no increase in the quantity voided daily.

Clydach Vale, near Pontypridd.

A Mirror

OF

HOSPITAL PRACTICE,

BRITISH AND FOREIGN.

Nulla autem est alia pro certo noscendi via, nisi quamplurimas et morborum et dissectionum historias, tum aliorum tum proprias collectas habere, et inter se comparare.—MORGAGNI *De Sed. et Caus. Morb.*, lib. iv. Prœmium.

ST. MARY'S HOSPITAL.

FIVE CASES ILLUSTRATING THE DISEASES AND THE SURGERY OF THE APPENDIX VERMIFORMIS.

(Under the care of Mr. H W. PAGE.)

THE five cases which follow were in St. Mary's Hospital within a short time of each other, and may fitly be recorded together as fairly good illustrations of the sorts of troubles which have their origin in disease of the appendix vermiformis. Increasing experience shows that the appendix is very often—more often perhaps than any other intra-abdominal structure—the cause of abdominal mischief, and there has been many a case in which this has been to the astonishment of the surgeon, symptoms having pointed in other directions. In fact, unless there is some very definite indication of the cause and seat of the abdominal disease before him, the surgeon will always do well to bear the appendix in mind. He may have the satisfaction of making a brilliant diagnosis without any specific data on

which to found it. Attention is specially directed to Cases 1 and 5, for in neither of them was there the smallest indication that the appendix was otherwise than perfectly normal. Not that anything could have been done to relieve the two patients at the time when they went to St. Mary's Hospital, but they are instructive as showing that at an earlier period in their history it would certainly have been the right thing to explore the region of the appendix.

CASE 1. *Precise history of abdominal injury followed by general peritonitis; exploration at the end of a week; perforative ulcer of appendix vermiformis.*—A man aged twenty on Feb. 7th, 1894, had a letter-basket weighing thirty pounds fall on his abdomen. "The wind was knocked out of him" and an hour afterwards he vomited. His bowels had been moved as usual in the morning. He continued to vomit more and more incessantly for a whole week and was then sent to St. Mary's Hospital on the 14th. He was then almost as bad as it was possible for any living person to be, with a temperature of 103° F. and a pulse of 140; he was greatly emaciated, and had considerable abdominal pain and tenderness. To the left of and below the umbilicus the percussion note was peculiarly splashing in character, as if there was there a localised collection of gas and fluid, and inasmuch as he was quite certain that up to the time of the accident he had been perfectly well and had never had any abdominal disorder in his life the general conclusion was that he might have had some injury to, and secondary sloughing of, a small piece of bowel, and that a localised abscess had been formed at the place named. Dr. Lees saw him with Mr. Page, and it was decided that exploration should be made at once in the middle line, there being some uncertainty as to the physical sign which has been mentioned. An opening was therefore made below the umbilicus, but with the exception of some peritoneal adhesions, such as might form the boundary of a collection of inflammatory products, to the left of the incision nothing abnormal was seen. This seemed to give fresh import to the splashing sound on percussion, and accordingly, when the median incision had been quickly closed, a second opening was made directly over the seat of the splashing, midway between the umbilicus and the left anterior iliac spine. The exploring finger soon discovered a collection of thin, white, fæcal-smelling pus lying some distance from the surface and apparently loculated by adhesions. The condition of the patient, almost moribund as he was on admission, forbade further exploration, and in the circumstances it was deemed sufficient to insert a glass drainage-tube to the depths whence the pus had flowed. The patient died five hours afterwards, and at the necropsy on the following day it was found that the appendix throughout was inflamed and swollen, and that at its base there was a ragged ulcerated hole, and lying outside it a concretion the size of a large kidney-bean. Furthermore, there was a large collection of pus in the neighbourhood of the head of the cæcum and appendix, with a track of communication between it and the loculated abscess which had been found and drained at the operation. There was general peritonitis.

Remarks by MR. PAGE.—A case more difficult of diagnosis than this it would hardly be possible to conceive. The history was as clear as could be that injury was the starting point of the patient's illness, and in presence of the physical signs on the left side of the lower abdomen, and the absence of anything tangible in the region of the cæcum, it was a natural conclusion that injury and probably rupture of bowel had to do with his symptoms. In discussing the case together before operation Dr. Lees asked whether it was possible that the appendix might be the source of the trouble, but this was a mere surmise in presence of the negative features of the case. Nevertheless, as the necropsy told, the appendix and the concretion within it had been the origin of all the symptoms. There had never been any appendix disturbance before, but it is clear that the patient had been living in imminent danger of perforation from the concretion within, to be brought about at any moment by some external force. And the lesson of the case is no less clear that, when the surgeon fails to find a definite cause for abdominal symptoms after abdominal injury, he ought not to rest satisfied until the region of the appendix has been examined. It is to be hoped that he may have the opportunity of doing so at a time when there is some chance of success from operative interference, before the patient is practically moribund, with a history that he has been vomiting for a week and has been steadily getting worse every hour.

CASE 2. *Recurrent attacks of appendicular colic; opening of large abscess and rapid recovery.*—A man aged twenty was admitted on Feb. 17th, 1894, with a history that on Feb. 3rd he had been suddenly seized with severe abdominal pain. This was soon followed by vomiting, which was so violent that on the 5th it was thought he would die. Constipation also began at the same time. Twice he had had attacks of the same kind, the first of them three years before and the second at the end of 1892, lasting three and four days respectively; but neither attack was anything like as bad as this one. When admitted to St. Mary's Hospital the vomiting had ceased for a week, and for a longer time than this the bowels had not been moved naturally, but he had had relief by enema. The man looked anxious and ill; his abdomen was slightly distended, and everywhere resonant, except in the right iliac region, where it was dull on percussion and exquisitely tender at a point midway between the umbilicus and the anterior iliac spine. Here also there was distinct swelling. It was obvious that there was a large collection of pus, and when he had been anæsthetised fluctuation was manifestly in the depths. The abscess was accordingly opened by a two-inch incision over the tender point, and, the pus having been allowed to flow out spontaneously, a drainage-tube was inserted and the wound closed. The discharge ceased very speedily, and the tube was removed on the 23rd. The bowels had acted spontaneously the day before. The cavity was soon obliterated, and the patient was discharged well on March 16th.

Remarks by MR. PAGE.—In this case we had one of the simplest kind undergoing, at the time we saw it, a process of spontaneous cure by inflammation and suppuration. All that the surgeon then has to do is to open the abscess, and he should altogether abstain from washing out and distending the abscess cavity for fear of breaking down protective adhesions. It is of no use and positively dangerous to hunt for the appendix. Let it be noted that the bowels very soon acted of their own accord after the evacuation of the abscess, a point on which the next case is even more interesting and instructive.

CASE 3. *Large post-cæcal abscess following a single attack of appendix disease; drainage from the loin; rapid recovery.*—A man aged twenty-six was admitted from the medical out-patients' room, under the care of Dr. Lees, on Feb. 20th, 1894. On the afternoon of the 18th he was suddenly seized with acute pain in the lower part of his abdomen when walking in the street. He had to go home and take to bed. He vomited for the first time on the following day. The bowels had not acted since the pain began. There had been no previous constipation, and his health had always been good. When first seen in the out-patient room he looked ill and had a temperature of 102° F. His chief complaint was of pain, by no means severe, in the right iliac region. When seen in bed it was obvious that the movements of the lower part of the abdomen were restricted, especially on the right side; and here there was decided tenderness over a considerable area of the right iliac and part of the lumbar region also. Deep palpation could not be borne. It was noted by Dr. Caley, medical registrar, that in the area named there were a tympanitic note on percussion and a distinct bell sound as of an air space enclosed by adhesions. This was noticeable both in front and behind, but the next day it had disappeared, and was replaced by complete dulness, markedly extending into the lumbar region. He was transferred to the surgical ward with a view to operation on the 25th, and Mr. Page, being in agreement with Dr. Lees that there was almost certainly mischief about the appendix, opened the abdomen on the 26th by a three-inch incision midway between the umbilicus and the anterior iliac spine. Exploration soon revealed that the peritoneum over the head of the cæcum, and there only, was acutely inflamed. Posterior adhesions were firm and extensive, and as these were gently separated there began presently to well up from the post-cæcal depths some thin, offensive pus. This was caught in sponges as it came, and the finger was then insinuated into a large cavity behind the cæcum, reaching to the pelvic brim and towards the middle line. It was manifest that this cavity could not be drained with safety from the front, and an instrument was therefore pushed through to the loin and a counter opening made upon it. Pus now came in larger volume. No attempt was made to find the appendix, which lay out of sight behind the cæcum. After carefully cleansing the cæcum the anterior wound was closed. With the exception of the local peritoneal inflammation nothing had been found wrong with the cæcum itself, and it was quite

empty of fæces. The after-history is without features of importance save this, which is of much interest—that within twelve hours of the operation the bowels acted twice spontaneously. Excepting a temporary block on the fifth day after the operation the drainage-tube in the loin acted perfectly; it was shortened by degrees, and finally removed on March 18th, the temperature having then been normal since the 2nd. The man left the hospital on April 13th well.

Remarks by Mr. PAGE.—The symptoms and physical signs were not in this case as clear as could be wished for certain diagnosis, due, no doubt, to the position of the appendix behind the cæcum. Here it was that in all probability perforation or some other local cause of inflammation had occurred, and suppuration had been rapidly induced. In olden times it would have been called a case of perityphlitis, and the constipation would in all probability have been attributed to accumulation of fæces in the cæcum, followed by inflammation therefrom. The cæcum was, however, found quite empty, and the constipation, which came to a spontaneous end so soon after the operation, must have owned a paralytic reflex cause.

(To be continued.)

Reviews and Notices of Books.

Two Monographs on Malaria, and the Parasites of Malarial Fevers. 1. MARCHIAFAVA and BIGNAMI. 2. MANNABERG. London: The New Sydenham Society. 1894.

THIS important volume is well worthy of the attention of the English reader, and there is a certain opportuneness in its appearance in the year of the International Medical Congress at Rome. The translation of the first monograph—that of Marchiafava and Bignami—is by Dr. J. Harry Thompson of Washington, whose work has been revised by Dr. T. E. Charles of Rome. Dr. R. W. Felkin of Edinburgh is the translator of the monograph of Dr. Julius Mannaberg. In both cases the work of translation has been very satisfactorily performed. As Dr. Charles points out in his preface, recent views regarding malaria date from 1880, in which year Laveran established the existence of a malaria parasite, which he recognised as a flagellate organism free in the blood of a patient suffering from malaria. Marchiafava working conjointly with Celli reached a similar conclusion by a more laborious and less direct method of inquiry. In their investigations into the subject of melanæmia they found that a manufactory existed in the red blood-corpuscle in which the hæmoglobulin was changed into melanin. On subjecting the red blood-corpuscles to the influence of methyline blue they found spots stained blue analogous to micrococci. By cultivation these spots were differentiated from micrococci, and finally amœboid movements were made out and the existence of a parasite demonstrated. The general conclusions of Marchiafava and Celli are thus summed up by Dr. Charles: "The parasite of malaria consists of a minute particle of protoplasm, which, resembling a small amœba, enters into the red blood-corpuscle and there converts the hæmoglobin into melanin. It is often endowed with amœboid movements, which may be very active and produce rapid changes in its shape. It lives in the interior of the red blood-corpuscle and gathers the pigment it forms into its centre. It then divides into separate fragments, this segmentation taking place within the body of its host, the red blood-corpuscle." Golgi subsequently was able to differentiate the variety of the parasite which is connected with the tertain type from that which is found in quartan fevers. He also established the fact that the commencement of the paroxysm of the fever is synchronous with the stage of sporulation of the parasite. Bignami in 1890 devoted himself especially to the study of the morbid appearances met with after death in malaria, and sought to interpret the symptoms in the light of the post-mortem observations. Coming to the body of the work, we cannot profess to review it exhaustively, but must content ourselves with selecting for comment a few of the most interesting and important points. Quartan fever, according to the authors, is caused by an amœba which completes its life cycle in three days. On the morning of the first day of apyrexia there are found within the red corpuscles amœbæ varying in size from a sixth to a fifth part of the corpuscle itself. During the whole period of apyrexia the dimensions of the amœbæ slowly increase and the development goes on until at last nothing is left of the red globules but a very fine margin. A few hours before the next paroxysm the segmentation or sporulation of the amœba begins and is completed a little before or coincidently with the commencement of the febrile paroxysm. The development of the amœbæ is attended by an abundant formation of pigment. After the paroxysm young amœbæ destitute of pigment can be seen in the red blood-corpuscles, and the process of development begins afresh. Similarly, tertian fever is caused by a parasite which completes its life cycle in two days. In both forms of malaria the beginning of the paroxysm coincides with the maturation of a generation of parasites. The differences between the tertian and the quartan parasites are set forth as follows. The tertian parasite completes its life cycle in two days, the quartan in three. In the tertian the amœboid bodies within the red blood-corpuscles have much more lively movements than those in the quartan. The tertian parasite discolours the red blood-corpuscle much more energetically and rapidly than does the quartan. Further, while the red blood-corpuscles which have been invaded by the quartan parasite tend to shrivel up, those invaded by the tertian parasite, on the contrary, are seen to be expanded, and they tend to become larger than the normal red corpuscles. The quartan amœbæ have more sharply defined contours than the tertian. The granules of pigment in the tertian amœbæ are of extreme fineness; in the quartan amœbæ they are coarser. The two kinds of amœbæ differ also in the manner of their sporulation.

As regards quotidian malaria, it is found to be dependent on the development of an amœba, the life cycle of which is completed in about twenty-four hours. During the height of a paroxysm some of the red blood-corpuscles are found to contain one or more plasmodia with very lively amœboid movement. Sometimes the parasite assumes an annular, sometimes a discoid form. During the intermissions the plasmodia change; they develop and become pigmented, while their mobility tends to decrease. This life cycle of the amœba might be called a pyrogenic cycle, because it is directly connected with the development and succession of the attacks of fever. The "malignant" fevers follow either the quotidian or the tertian type and are characterised especially by the prominence of cerebral symptoms. The amœbæ of the malignant fevers are remarkable for their greater activity in propagation and their higher degree of virulence. There is a very important chapter upon the Influence of Quinine upon Malaria, and from a careful study of the clinical phenomena the authors conclude that "quinine acts on the amœba of malaria in those phases of its life which are occupied in nutrition and development; when, however, the transformation of hæmoglobin into black pigment is arrested, and in consequence the nutritive activity ceases and the reproductive phase begins, then against this latter process quinine is of no avail."

The second monograph is that of Dr. Julius Mannaberg. This investigator, accepting the general conclusions of Laveran, has pursued extensive inquiries into the morphological relations of the malarial parasites. He finds that these parasites are unicellular living organisms, that the immature parasites have a flattened appearance, and that their reproduction takes place by simple segmentation. He believes that the pigment represents a product of digestion of the hæmoglobin. Following Laveran, he describes three kinds of

movement in the hæmatozoa—viz., the amœboid movement, the movement of the flagella, and the movement of the pigment. He believes that the individual forms of parasites present true species which do not undergo a transformation into other forms. As regards the melanæmia, so characteristic of malaria, Dr. Mannaberg writes: "The melanæmia is explained convincingly and indubitably by the fact that the parasites transform the hæmoglobin by which they are nourished by means of their metabolism into melanin. Melanin is, therefore, nothing but the undigested residue of nourishment which the parasites form and heap up in their bodies; the granules and rods can be conveniently termed fæcal matter, notwithstanding that they are not thrown out." The anæmia of the disease is easily explained by the fact that the red blood-corpuscles are consumed and destroyed by the malarial parasites.

This volume will prove a valuable addition to the admirable series with which the New Sydenham Society is enriching medical literature.

International Clinics. Edited by JUDSON DULAND, M.D., Philadelphia; J. MITCHELL BRUCE, M.D., F.R.C.P., London; DAVID W. FINLAY, M.D., F.R.C.P., Aberdeen. Third Series, Vols. I. to IV., 1893-1894. J. B. Lippincott Company. 1893 and 1894.

THESE handsome and well-printed volumes, which are issued with great regularity every quarter, contain a vast amount of instructive and readable matter. The range of subjects is as wide as that of medicine itself, and the lectures upon them are gathered from the clinical schools on both sides of the Atlantic. The publication of such a repertory of bedside experience cannot fail to exercise a marked influence on thought and practice, whilst the fact that a venture of this magnitude should have attained its fourth year of existence demonstrates that its volumes have obtained a recognised and sure place in periodical medical literature. Each volume contains some fifty or sixty lectures and commentaries upon cases of disease; a certain number of the former are elaborated into general disquisitions, but the majority are purely clinical—that is, are based upon cases under observation at the time of the delivery of the lecture. In our opinion, this is the only right form into which a clinical lecture should be cast. It does not and ought not to aim at being an exhaustive survey of the topic with which it deals—such a review should be reserved for the monograph or thesis; but it should bring out in clear detail the clnical facts aittaching to the patient and deduce therefrom the lessons they convey. In perusing these volumes we had marked for especial comment several of the interesting lectures they contain, but on reflection it has seemed that such criticism would be unnecessary. The volumes contain lectures from such leading physicians and surgeons as Dr. Pepper, on Disseminated Sclerosis and on Cholera; Dr. Musser, on Cancer of Stomach and on Hepatic Colic; Dr. W. H. Porter, on Bright's Disease; Dr. T. W. Gairdner, on the Early Signs of Aortic Aneurysm; Dr. Sansom, on Non-Rheumatic Arthritis; Sir Dyce Duckworth, on Enteric Fever; Dr. F. Taylor, on the Diagnosis of Typhoid Fever; Dr. T. Oliver, on the Thyroid and its Diseases, and on Blood Spitting; Dr. Hale White, on Rises of Temperature due to Diseases of the Cerebrum; Dr. Finlay and Dr. Goodhart, on Empyema; Dr. Beevor, on Locomotor Ataxia; Drs. Wharton Sinkler and Eskridge, on Syringomyelia; Dr. Saundby, on Diabetes and on Cancer of the Stomach; Mr. J. W. Hulke, on a case of Cranial Tumour; Mr. R. W. Parker, on Infantile Paralysis and on Congenital Club-foot; Mr. Pearce Gould, on Gall-stones; Mr. Bland Sutton, on Lymphatic Œdema; Mr. Tiffany, on Cataract (two lectures full of detail as to pathology and treatment); M. P. Budin, on Alimentation of Infants. A list which includes such contributions to medicine and surgery exemplifies the variety and interest of the subject and the value of the sources from which they are derived.

Handbuch der Physiologischen Optik. Von H. v. HELMHOLTZ. 2te Auflage; achte Lieferung. (*Handbook of Physiological Optics.* By H. v. HELMHOLTZ. Second Edition, Eighth Part.) Hamburg und Leipzig: Leopold Voss. 1894. Pp. 561-640.

WE welcome with pleasure the eighth part of Professor Helmholtz's handbook, which we suppose will be completed in about four more parts. May we venture to hope that they will succeed each other a trifle more speedily than those which have been lately issued? Eight years have elapsed since the appearance of the first part of this second edition and two years since the issue of the seventh part. The additions that have been made scarcely seem sufficient to require two years' or even two months' work for their composition. Many of the eighty pages are unaltered, and though doubtless Professor Helmholtz's time is fully occupied, yet the lapse of many years between the commencement and the conclusion of even a standard work impairs its value as a representation of the state of knowledge at the time it is written. The present part is occupied with the subject of visual perceptions. The chief new sections are devoted to the subjective sensations of Professor Koenig and to a consideration of the psychological views of Kant, more particularly in regard to the question whether the objects of our visual perceptions as form and colour are realities or merely modes of thought dependent on our structural organisation.

Defects in Plumbing and Drainage Work. By FRANCIS VACHER. Manchester and London: John Heywood. 1894.

THIS little work consists of the record of a collection of blunders in sanitary engineering, gathered by the author either in his daily work or sent to him by correspondents engaged in a similar field of employment. In all about 103 cases are instanced which display errors either in rain-conducting, trapping yard and area drains, sink waste-pipes, bath and lavatory waste, and overflow-pipes, watercloset fittings, ventilating soil-pipes, house drains, or domestic cisterns and hot and cold water apparatus. Many of these defects evidently arose from ignorance, but a good number can only be attributed to a wanton carelessness and scamping of work. Not a few were met with in houses comparatively recently erected, and they therefore afford instructive reading as to the amount of supervision exercised by some sanitary authorities upon building operations conducted in their district. The work is so simply written, and illustrated by such a profusion of diagrams, that we feel confident it will be within the range of every class of reader. We cordially recommend it to medical officers of health and sanitary inspectors, but particularly to plumbers, who will earn for themselves the thanks of a grateful public if they will only read Mr. Vacher's book and avoid "how not to do it."

New Inventions.

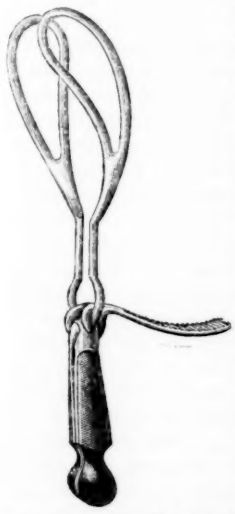
WOOD PAVING OF STREETS.

IN reference to our recent remarks on the wood paving of streets, specimens of a hard wood of Western Australia have been submitted to us. In a rough experiment made in our Laboratory a brick of this wood, when soaked in water for an hour, increased in weight by 4 per cent. Similarly, a block of ordinary deal absorbed over 8 per cent. in the same time. Thus the specimen submitted to us would appear

to be considerably less absorbent than the kinds of wood commonly used, while it is capable of being washed and cleaned. Providing therefore it can stand the wear and tear of street life in London (and we do not doubt that it will, since it presents a hard, firm surface), and is commensurate in cost, its adoption would seem to be desirable. The specimen is forwarded by the Rockingham Railway and Jarrahdale Timber Company, Limited, 9 and 11, Fenchurch-avenue.

A NEW AXIS TRACTOR.

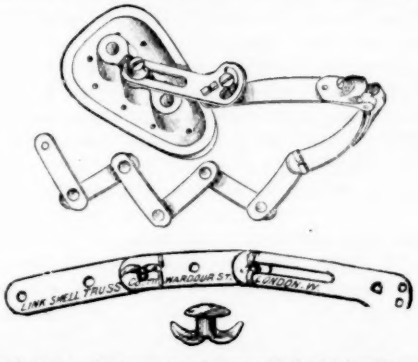
MESSRS. SUMNER AND CO., of Lord-street, Liverpool, have made for me a new tractor, which has been designed to supply a handy, effective, and uncomplicated adjunct to the forceps, which will render traction in any direction both possible and facile. It is used either as a tractor or a combined lever and tractor, and with it the force applied can be expended in any direction from the perpendicular to the horizontal. The tractor is so constructed that it is with facility attached to any ordinary long forceps when in position, and is detached with ease at any moment. The illustration represents it in position. Although rigid to downward pressure, a sufficient play of the lock is allowed to avoid any continuous compression of the head by the blades. With the handle of the forceps as a guide, pressure on the anterior brim can be wholly obviated and the entire force used in the true axis. There is perfect control over the movements made and risk of injury to the soft parts is materially lessened. Whilst the traction requisite for delivery is probably 50 per cent. less than with long forceps alone, unnecessary force will simply press the head against the sacral curve.



Manchester. JOHN F. LE PAGE, M.D.

THE LINKED TRUSS.

THE Link Shell Truss Company, 171, Wardour-street, Oxford-street, W., have brought to our notice a new linked truss. For the spring of the truss which encircles the body is substituted a series or chain of links fastened together by means of split steel spring rivets. It is claimed that by this method of manufacture a truss is provided which will be more comfortable than the one in ordinary use and better able to adapt itself to the various movements of the body, especially if these are of a sudden character. The truss is fitted with a hip-joint regulator, by means of which the pressure is increased or diminished as required, and with a soft hollow shell pad perforated for ventilation. The truss as thus completed is an efficient one, but we do not find that the special arrangement of links gives much, if any, advantage over the ordinary light steel spring, and we doubt if it would wear as well. This can only be proved by future observation. We hold, however, that the tendency should be towards simplicity of construction when endeavours are made to improve surgical appliances such as trusses, for the more numerous the parts of which a truss is composed the greater the risk that some one of them may prove weak, and the instrument quickly become useless.



FOUNDER'S DAY AT EPSOM COLLEGE.

FOUNDER'S DAY at Epsom College was celebrated on Monday last, when the headmaster, the Rev. T. N. Hart Smith, distributed the prizes. Supporting him were several well-known members of the council and others, including Sir Edward Sieveking, Sir David Evans, Sir Trevor Lawrence, Bart., Colonel Gordon Watson, Mr. John Croft, Mr. H. E. Varden, Mr. Smales, and the school staff.

The headmaster, in a comprehensive speech, reviewed the work of the school during the past year. He first of all read apologies for the non-attendance of the chairman of the council, Sir Joseph Fayrer, the treasurer, Dr. Holman, and the President, the Duke of Abercorn. With regard to the doings of the school since last Founder's Day, he could say that the school was thoroughly prosperous and full. As they knew, a Royal Commission was at present engaged in investigating the question of secondary education, and he believed that there was to be a conference of head masters in October, at which the whole question would be considered. So far as it affected schools of that class it might resolve itself into two points: firstly, that of registration; and, secondly, some form of inspection of schools. He could not help thinking that, as far as the registration of teachers was concerned, there was room for a great deal of improvement, and that it might be a possible gain; at the same time he could not say that he was particularly inclined to favour any system of school inspection unless it was of a thoroughly sympathetic kind and conducted by those who were acquainted with teaching and with its wants and needs. He believed that anything that would tend to deprive the schools of their special character, anything that would hamper them or drive them into one groove, would be extremely detrimental to the best interests of education.

The following distinctions, among others, had been gained since Founder's Day, 1893:—By R. F. Campbell Ward, exhibition of £20 and sizarship of £30 for natural science at St. John's College, Cambridge; by G. E. Waugh, scholarship of £50 for natural science at Downing College, Cambridge; and by H. A. T. Fairbank, £120 entrance scholarship for natural science at Charing-cross Hospital. A large number of pupils had passed the Preliminary and Intermediate Scientific, the Oxford and Cambridge, and the London Matriculation examinations. Among the school prizes were the following:—English language and literature: Waugh; modern history: D. James; science: Chetwood; Latin prose: Davies; Sterry Knight; Carr, Benton; Martin prizes (presented by Sir David Evans): Classics: Turner, 1; mathematics: Drew, 2. French and German (presented by Sir Trevor Lawrence, Bart.): Ellis, 1; Ward, 2. Elocution and reading (presented by Sir Edward Sieveking): Thomas; essay, Waugh; the Wakley prize, R. Ward; the Propert prize, Waugh; the Harvey prize, Waugh; the E. W. Doncaster prize, F. G. Thomson; and medal for gymnastics, Drew.

Sir Trevor Lawrence and Sir David Evans addressed a few words to the gathering, and the proceedings concluded. Refreshments were afterwards served on the lawn, followed by an assault-at-arms in the gymnasium and service in the chapel.

ON July 28th the new School for Deaf and Dumb Children of North and East Lancashire was opened by the Earl of Derby. The school is situated near Preston, and is capable of accommodating fifty patients, and has been erected by public subscription, the late Miss Mary Cross, with a donation of £5000, being the chief subscriber.

THE LANCET.

LONDON: SATURDAY, AUGUST 4, 1894.

THE topic selected by Sir T. GRAINGER STEWART as the subject of the Address in Medicine before the British Medical Association was one that lay ready to hand. The pandemic of influenza which passed over the world four years ago—and of which we are still experiencing some recurrences, with, however, decreasing scope and intensity—not only excited universal interest, but impressed on the present generation a lesson that cannot be forgotten. To the majority of practitioners and of their patients the experience proved wholly novel. Records of similar pandemics in previous times, dating back from the middle of this century to the Middle Ages there are in abundance; but—so rapidly does the tide of human life roll by—that those who were engaged in active medical practice forty years before the late invasion were few compared with the numbers who had to contend with a disease of whose nature and character they had no personal knowledge. In this respect, then, Sir T. GRAINGER STEWART has been fortunate in the opportunity he has embraced of summing up the gains to knowledge that have so recently accrued before an audience every member of which could appreciate and compare from his own experiences the clinical picture that was unfolded before him. And, having regard to the time and occasion of the address, it must be admitted that the sketch presented was bold in outline and wide in scope, although of necessity lacking in detail. We must congratulate the lecturer upon the skill with which he marshalled his facts, showing forth in rapid sequence the multifarious manifestations of this remarkable affection, which has no parallel in the extent and variety of its influence upon the functions of the body. These effects, regarded as complications or sequelæ, according to the proximity of their appearance to the invasion of the fever, can one and all be ascribed to the action of the virus of influenza, either directly or indirectly. Disorders of digestion, of blood formation, circulation, respiration, of the cutaneous, genito-urinary, and nervous systems—varying in type and character, attended or not by gross anatomical lesions—have been traced to the action of a virus to which mankind is singularly susceptible, which apparently confers little immunity from second infection, and which requires a singularly brief incubation before it manifests its presence by the short and sharp pyrexial disturbance that characterises the primary attack. Well might we say that had we not been witnesses of these things we should be sceptical indeed of the underlying unity of these varied and differing phenomena. Amongst the clinical episodes that may thus accompany or follow influenza Sir T. GRAINGER STEWART mentioned some of special interest which had fallen under his own observation. He cited a case of a phthisical subject who, after an attack of influenza, suffered from thrombosis and purpura hæmorrhagica, the latter complication eventually carrying him off; and he placed this example of blood disorder in line with the anæmia which may also supervene on influenza and attain a grave severity. The cardiac derangements, nervous and muscular, were also dwelt on—indeed, they furnish some of the most noteworthy of the sequelæ of the disease; and a remarkable example of bradycardia was cited in contrast with the relatively more frequent state of tachycardia. The relationship of influenza to pneumonia was clearly expounded, and the fact that both broncho-pneumonia and croupous pneumonia stand in close relation to the primary disease would be generally corroborated, as would also the experience of the very severe type of pulmonary inflammation that was noted in the earlier periods of the pandemic invasion.

In entering upon the discussion of the pathogenetic relationship of influenza with the morbid derangements that may be excited by it Sir T. GRAINGER STEWART pointed out how these secondary disorders may be gathered into groups which, taken together, almost embrace the whole of nosology. There are microbic diseases, such as tuberculosis and pneumonia; diseases due to faulty chemical action from toxic matters introduced from without or from "auto-intoxication," as M. BOUCHARD terms it; diseases from faulty mechanical conditions, from faulty innervation, and the whole range of inflammatory and degenerative disturbances from which barely an organ or a tissue may escape. It is clear that, apart from any bacteriological considerations, with so wide a range of action upon the nutrition of the body, the virus of influenza must in some way operate by lowering vital resistance or determining morbid processes to which there may be already a tendency in the individual, as well as by directly acting as a poison to the nervous system that governs and controls nutrition and every organic function. But, imbued with the spirit of the time, Sir T. GRAINGER STEWART did not rest upon such vague and hypothetical reasonings. He set himself to show that the bacillus discovered by PFEIFFER is the essential cause of the disease and of all that may spring from it. Now, although the demonstration of the *rôle* of the bacillus of influenza has not attained such certainty as has that of the organisms of anthrax or of tubercle, of tetanus or of diphtheria, nevertheless it must be admitted that from analogy as well as from direct observation PFEIFFER'S discovery satisfies the natural desire for a single source for all the morbid changes that are met with in influenza. It has at any rate convinced the cautious mind of Sir T. GRAINGE STEWART, whose address bears witness to the extent to which he has studied the subject. He showed that it is in the chemical products of the bacillus that the explanation of the varied effects of the disease is to be found; and it is abundantly clear that the recent admirable work of MARTIN, ROUX and YERSIN, and others upon diphtheria furnishes powerful support to this view of the nature of influenza. We may take it, then, that the bacillus is an adequate and a sufficient cause for the phenomena of the disease; and once this conception of its nature is held it is not difficult to apply it to other etiological facts. It will be seen that Sir T. GRAINGER STEWART ranges himself as a pure "contagionist." His arguments are well worth considering by the light of experience, and especially the points

which he makes of the brevity of incubation and the well-nigh universal susceptibility to the infection; nor does he shrink from the practical outcome of this doctrine—namely, the enforcement of isolation of the sick and the adoption of measures directed against the bacillary invasion of the respiratory mucous membrane. The address will afford much food for reflection, and will do good service by pointing out the directions in which the disease may be controlled at its next visitation more effectively than has yet been possible.

MR. GREIG SMITH'S Address in Surgery at the British Medical Association was highly appreciated by his large audience at Bristol, and it will be valued by a still wider circle of readers. He chose a topic of the highest importance—"The Art of the Surgeon, and how we train Men to practise it"—and he dealt with it in a fresh and wholly worthy way. It is refreshing to find such a theme viewed from a high standpoint and without cramping bias. For it is undeniable that there are those who would magnify the Science of Surgery at the expense of its Art, just as there have been and possibly still are those who rejoice in the Art and would minimise its Science. Mr. GREIG SMITH rises superior to all such narrow, partial, one-sided views. He sees that the practice of surgery ought to rest, must rest, on a wide and solid scientific basis, and he claims that our students should have as good a scientific training as it is possible to give them. He cries out for more anatomy, more physiology, more pathology, and rightly demands that bacteriology should be amongst the compulsory subjects in the curriculum. To make room for this additional work he asks that zoology, botany, and chemistry shall be placed among the preliminary studies and made a part of the preliminary examination, as is done by the universities that grant medical degrees. There is no doubt that it is in this direction that great reform is to be looked for, and we believe that the time for its accomplishment is not far off. The association of the study of anatomy and the practice of surgery is a very close one. Most of the great anatomists of the past have been great surgeons, and few, if any, surgeons have been truly great practitioners of their craft who have not been diligent and proficient students of anatomy. With every development of surgery the need for more accurate anatomical knowledge has been felt. Mr. GREIG SMITH instances the study of the normal anatomy of the vermiform appendix which immediately followed upon the introduction of the surgical treatment of typhlitis. Many other cases might be cited. A striking instance will be found in the elaborate and minute study of the anatomy of the temporal bone which has followed from the employment of operative surgical measures in the serious complications of middle-ear disease; and if an accurate knowledge of normal anatomy is needed by the operating surgeon, of still greater value to him is a precise acquaintance with the pathological changes that may be met with in a part upon which he has to operate. All this may sound commonplace, but it is truth that needs to be stated and restated, and never was it more necessary to state it than now, when a proper use of anæsthesia, hæmostasis, and antiseptics has robbed operations of many of their terrors and perils, and affords a protection against many of the ill effects of carelessness, ignorance, and incompetence.

The special charm and value of Mr. GREIG SMITH'S address, however, lie in the fact that his high appreciation of the value of the science on which surgical practice should rest is coupled with a keen delight in the art of surgery. The prevailing tendency is to think too slightingly of this. We revel in statistics, and all that cannot be weighed in a balance or expressed in figures we regard as of little or no moment. Much of the skill and dexterity of the great surgeons of other days is unknown to-day. We centre our thoughts on other things, especially on what we call "results." But with a true surgical instinct Mr. GREIG SMITH sees that surgery is an art and that its practitioners should be artists in the truest sense of the word. It is this part of his address that is most full of force and freshness, and we hope that it will be laid to heart and pondered over by everyone who lays claim to the honoured title of surgeon.

From this we are led to notice the strange lack of proper teaching of the art of surgery and how much it differs from the teaching of all other arts. Students are supposed to learn by watching others operate, whereas all other arts are taught by the student making his own efforts under the keen eye of his practised teacher. The suggestion of a Royal Academy of Surgery, in which the students shall all be qualified practitioners, learning by operating upon living patients under the eye of their masters, is one not likely to be realised, and there are many reasons and motives which will combine to prevent its realisation; but the idea thus expressed has life in it and may be carried out in other forms. A surgeon who is an artist has many opportunities of teaching his assistants his art, even with our existing arrangements, and if he appreciates his art as he should and understands aright the privileges of his position he will not be slow to use these opportunities. Unfortunately so much of our work is done under conditions which tend to smother the artist and leave only the practitioner. We hope and believe that Mr. GREIG SMITH'S address will do something to stimulate the artistic sense in all, and perhaps it may be so potent that here and there even great artist-surgeons like LISTON may arise.

WE publish in our present issue a letter from a medical practitioner giving strange particulars of the way in which a patient of his was treated and advised by the house surgeon of a special hospital. The system disclosed in the letter constitutes a form of hospital abuse which cannot be too severely criticised. The patient was a man not unwilling to make a contribution to the hospital, though only a clerk. The case was, nevertheless, one which in its social and medical aspects was entitled to very considerate treatment. There was nothing specially difficult in its nature or calculated to make it unfit for treatment at any hospital in London worthy of the name. The house surgeon, it will be seen, magnified the operation and represented it as justifying a charge more suggestive of a major operation on a rich man than a comparatively minor operation in one who was "only a clerk" and "living in lodgings." Moreover, he proposed

an arrangement by which one of the surgeons, as a matter of favour, should receive 20 guineas for the operation and he himself should take up the after-treatment and be paid at the rate of a guinea a visit. No allusion was made throughout to the ordinary attendant of the medical man, who had sanctioned the patient going to hospital for treatment, obviously believing it to be a fit case. The excuse for these remarkable proposals was that the hospital was full and that it would not be possible to take the patient in for six months. This excuse is without force. The house surgeon's duty was discharged in saying that the hospital was full. If he had a notion that the case was one for private treatment he should have referred the patient back to his own medical attendant with a message on his visiting card. This is the kind of courtesy that general practitioners are entitled to expect from the staff of a hospital, and without which there is no hope of avoiding the abuse of hospitals by patients or of securing considerate treatment for a patient who may have a decent coat on his back and yet be entitled to hospital relief, as appears to have been the case here. Instead of this the house surgeon gave his visiting card to the patient with instructions to see him next week with the view of clinching all these little arrangements. The patient naturally did not return, but tried another special hospital, where, strange to say, he was encountered with somewhat similar proposals.

We cannot bring ourselves to believe that such overtures would be made in any of the large general hospitals of London. They are of a nature to increase the suspicion with which small or special hospitals are already regarded. It can scarcely be doubted that the smaller and the more special a hospital is the greater must be the temptation for its officers to turn it to personal purposes. The ethics of specialism need to be even higher—as we have said before—than those of general practice or ordinary consulting practice. The very pretence of superior and special knowledge is in itself apt to have a demoralising effect in ways which we need not now stop to explain. Be this as it may, we can only hope that the publicity which we give to our correspondent's letter and our own remarks will be sufficient to put all officers of hospitals on their guard against a use of their positions and of their hospitals which is simply intolerable. Our respect for hospitals is unbounded, but only on the condition that they are not abused either by receiving unfit cases or by making such cases a means of personal advertisement and of securing personal advantage. That a house surgeon should be able to monopolise a patient and make terms with him (to say nothing of his involving a member of the honorary staff in the arrangement) is surely a course of proceeding never contemplated by the benevolent public whose charity maintains the hospital, or by the profession whose opinions are certainly entitled to some consideration in such matters. Even when the honorary surgeon himself thinks a patient unfit for reception into a hospital he should refer him back to his private medical attendant, who best knows his means, and leave to him the selection of a consultant or an operator. We have eliminated all mention of names, either of individuals or of hospitals, but it is scarcely necessary to add that if any hospital or its representative likes to "fit on the cap," our columns are open to any explanation.

Annotations.

"Ne quid nimis."

SMALL-POX IN LONDON: THE ST. JOHN'S WOOD OUTBREAK.

JUST as sanitary authorities in London were congratulating themselves on having seen almost the last of small-pox for the present an epidemic prevalence has been recorded in the North-western district of St. John's Wood and mainly limited to one portion called Portland-town. This area was insufficiently protected by vaccination and may be defined as bounded by St. John's Wood-terrace, Regent's Park, The Avenue-road, and the High-street, and contains a population of about 6000. The epidemic has been very sudden in its onset, there having been only three known cases in the locality up to Monday of last week. The probable origin must be looked for in an unnotified case which appeared in Henry-street on July 6th. The man had been ill for about five days with anomalous but severe symptoms—delirium, high temperature, and a miliary rash on the fourth day, followed by the eruption. Immediately on the appearance of the eruption a medical consultation was held and the case diagnosed and notified; but the patient was extremely ill, the parents objected to removal, and death took place on July 12th. When the condition was recognised the patient was isolated as far as possible under the conditions. The burial took place on July 15th and complete and thorough disinfection of the premises was begun an hour after the removal of the body; but no *special precautions* had been taken previously to the diagnosis. The patient was treated and died at his home, a retail shop doing a large trade in the immediate neighbourhood. With this as an origin, the history of the epidemic by dates appears to have been as follows: On July 23rd, 4 cases; 24th, 11; 25th, 30; 26th, 32; 27th, 37; 28th, 13; 29th, 9; 30th, only 1. Since this date no cases whatever have been reported from the affected area. Of these 137 cases only 12 occurred without the defined area, and in most of these a connexion could be traced to the focus; 134 cases have been tabulated as to age and sex, and the table shows 65 males against 69 females, while the ages which furnished the majority of the cases ranged from five to forty-five. The statistical information with regard to vaccination is not complete. So far as we can learn, unvaccinated cases formed about 18 per cent., and the majority of the adults affected had only been vaccinated in infancy. There was a marked difference in severity of attack between vaccinated and unvaccinated cases. There were also many doubtful cases. Mr. Wynter Blyth and the vestry of Marylebone are to be highly congratulated on their treatment of the outbreak. The vestry gave at once a free hand, authorising their medical officer of health to spend any reasonable sum of money. On Monday, the first day of the outbreak, an office was obtained in the centre of the infected district, a staff of special messengers was organised, and the work of disinfection carried on night and day without intermission. Cases were sent away immediately upon notification. The guardians also gave Mr. E. C. Greenwood, the public vaccinator for the parish of St. Marylebone, a free hand, and two stations were opened—one in the centre of the area and one in Lisson-grove. No single case was treated at home, but all in hospital. The authorities hope, considering the time of year and the active measures that have been taken, that now they will have only a few sporadic cases; but they cannot tell until next week obviously, as if the past cases have given rise to many more

the seed is not likely to begin to bear fruit earlier than to-day (Saturday).

THE BRITISH INSTITUTE OF PREVENTIVE MEDICINE AND THE LONDON COUNTY COUNCIL.

AT the meeting of the London County Council on Tuesday last the General Purposes Committee reported that they had had under consideration a memorial urging the Council to prevent the erection of an Institute of Preventive Medicine in Chelsea or in any other place under their jurisdiction. The committee were of opinion that the Council had no power to interfere in the matter, and recommended that the memorialists should be so informed. An amendment was moved that, as the erection of such an institute was a danger to the public health of London, it should, if required, be erected in a sparsely-populated neighbourhood. The amendment was lost by two votes in a Council of eighty-four, and the recommendation of the committee was approved. In the course of the discussion it was stated that the medical officer of the Council was of opinion that there was no danger to health from such an institute. Upon this point we think there can be no doubt. The surprising matter is that the majority against the amendment was so small. The question of the attitude of representative local bodies with regard to such matters is one of much importance, which we propose to consider at greater length in an early issue.

HOW MUCH OF THE INTESTINE MAY BE EXCISED?

ALTHOUGH very considerable portions of the intestine have been successfully excised it is evident that there must be a limit to the length of this important part of the digestive tract which can be removed without interfering in a dangerous manner with the power of assimilating nourishment. This question forms the subject of an important article in the *Przeglad Chirurgiczny*[1] by Dr. Trzebicky, Lecturer on Surgery in the University of Cracow. From statistics he has collected he finds that more than a metre of small intestine has been excised by Baum, Billroth, Bruns, Hahn, Kocher (in two cases), Koeberle, Kosinski, and Schlange, the greatest length ever removed being in one of Kocher's cases which has not been published, and where no less than 2 metres 8 centimetres were excised. This case recovered as well as two others where 160 and 205 centimetres were removed. In Baum's case, however—a complicated one where 137 centimetres were excised,—although the patient recovered from the effects of the operation she died four months afterwards with symptoms of extreme inanition, and at the necropsy nothing was found except a moderate amount of renal atrophy. With the object of throwing light on the question, Dr. Trzebicky made a series of experiments on dogs, excising from 25 to 200 centimetres from different portions of the small intestine, in one series taking from the commencement of the jejunum, in a second selecting the middle portion of the jejuno-ileum, and in a third measuring from the ileo-cæcal valve. Afterwards the sutures described by Czerny or Baum were employed and the animals were subjected to a severely restricted diet for the first week, opium being administered for the purpose of lessening the peristaltic action of the gut. From the commencement of the second week a mixed diet was allowed. The animals were weighed daily, and at the end of a certain time they were distributed amongst different persons, who undertook to give them the exercise necessary for them to regain their strength. A post-mortem examination was of course made on any that died. It was found that some loss of weight invariably resulted when a very small portion of intestine had been excised. This loss of weight was not greater than might be accounted for by the want of food after the operation, but in most cases it decidedly exceeded this limit; generally speaking it may be said to have varied distinctly with the length of intestine removed compared with the length remaining. When the portion excised did not exceed certain limits the weight gradually increased until it reached or even exceeded that before the operation, the length of time taken in recovery appearing to depend largely on the proportion of the whole intestine which had been removed. As to the limit of length which can be safely removed Dr. Trzebicky found that so long as not more than one half of the jejuno-ileum was excised the animals seemed to bear the loss tolerably well; when, however, two-thirds were excised the result was always fatal, persistent diarrhœa coming on and most of the food passing undigested through the bowels. In spite of an enormous appetite the animals succumbed in a state of great emaciation. At the necropsy in these cases there was complete absence of fat and the gut was dilated, especially above the position of the suture. Other circumstances being the same, the results of removing a portion of gut high up were much more serious than when the part excised was taken from immediately above the ileo-cæcal valve. From the point of view of practical surgery on the human subject, Dr. Trzebicky thinks himself justified in deducing from his experiments that, as the jejuno-ileum varies in length in the adult from 561 centimetres to 870 centimetres, half this—i.e., at least 280 centimetres or about 9 ft.—may be removed without running unjustifiable risk provided that no complications are present.

[1] Vol. i., part 4.

THE FEAR OF PREMATURE BURIAL.

SOME of the daily papers have given *in extenso* a clause in the will of the late Mr. Edmund Yates, of a very unusual character. It was to the effect that immediately after his death his jugular vein should be opened by his medical attendant or some other surgeon, and that a fee of twenty guineas should be paid for the operation. The *Law Times* of last week, commenting on this clause, observes that, though unusual, it was not, it believed, absolutely without precedent. Our legal contemporary is right. A request has been made in more than one instance that some large blood-vessel should be opened before burial, but rather as a friendly act on the part of the medical attendant than as an operation for which a specified fee was bequeathed. In the case of Mr. Yates, as he had directed that cremation was to be performed, the fear of premature burial was of course out of the question. Still the prospect of being burnt alive is little, if any, less pleasing to contemplate than that of premature burial. The *Law Times* proceeds to observe that the position of a medical man performing such an operation for such a fee is a somewhat questionable one, urging that if the testator be really dead the surgeon performs a perfectly useless and unnecessary and, therefore, revolting operation, and few would envy him his fee. If, however, life is not extinct (and this, of course, is the contingency contemplated) the operator commits neither more nor less than homicide. His precise criminal responsibility (if any) would of course depend upon circumstances; but having regard to the fact that the law expects *peritia artis* of every medical man, a mistake would bring him perilously near an indictment for manslaughter. For our part we hold such a clause from whatever point of view regarded, as most reprehensible, and one that should be most strongly condemned. We may point out that we have repeatedly insisted upon the importance of verification of death, as a fact in every case before a certificate of death is given, that no death should be registered without a medical or coroner's certificate, and that no body should be buried under any circumstances without a burial order from the registrar or coroner. When these amendments form part of our death certification and registration system such a clause as our

contemporary condemns so vehemently will be wholly unnecessary. We may also observe that we have for years past inquired exhaustively into every case of alleged premature burial, or of apparent and not real death, the result being that not one actual case has been made out. A little reflection and common sense on the part of the public individually and collectively would show how foolish and ill-founded is the fear of premature burial, so far, at least, as these kingdoms are concerned. Instead of burial being performed hastily, it is much too frequently unduly delayed. Persons dying under such circumstances, as did the late Mr. Edmund Yates, have their last moments tenderly and carefully watched. In addition to relatives, friends, the medical attendant, and nurses, there are the undertaker and his assistants, persons daily accustomed to the sight of death, and it is inconceivable that all these various persons should be guilty of such a stupid blunder as a mistake under such circumstances would be. Again, in the lower ranks of life a death causes the most intense interest, the chamber of death is generally as full of witnesses to the fact of death as it can well hold, and we have never heard or read of an Irish wake being held prematurely.

FAILURE OF A VESTRY PROSECUTION FOR NON-NOTIFICATION.

THE Paddington Vestry has lately prosecuted Mr. Fearnley, M.R.C.S. &c., for having failed to send notifications in cases of diphtheria occurring in five children in the Queen Victoria Orphanage, Shirland-road, Paddington. On the third adjournment it was found by Mr. Plowden, the magistrate, that Mr. Fearnley was not in the least to blame, he having promptly notified the diphtheria and handed the notification to Sister Humphreys for transmission to the vestry. Mr. Plowden said that there was not a shadow of blame attaching to the medical man, and ordered the vestry to pay two guineas costs. Sir George Harris, L.C.C., at a meeting of the vestry, said, referring to this decision, that if the magistrate was right, the Act was practically a dead letter. The subject was referred to the sanitary committee for consideration. A rider was proposed empowering the vestry to appeal if necessary, but this was lost by the casting vote of the chairman. It is better in all such cases for the medical man to transmit his notification direct to the medical officer of health.

THE ALBUM OF THE INTERNATIONAL MEDICAL CONGRESS.

FROM Rome, under date July 30th, our own correspondent writes:—"In connexion with the Eleventh International Congress of Medicine and Surgery a new departure has just been taken, in the form of an illustrated album commemorating, *inter alia*, the chief representatives of the various nationalities who took part in the proceedings. Its main feature is a picture in photography in which the eminent practitioners and professors above alluded to are represented in artistic grouping, with the national insignia of each individual placed within easy reference. The artist is Signor Giovanni Cardilli, a photographer of high merit who, while the Congress held its sittings, took photographic likenesses of the leading interlocutors in the nineteen different sections, as well of the spokesmen at the several plenary conferences. These he has not only reproduced individually, but also collectively, in an effective 'quadro fotografico,' forming a vivid *mise-en-scène* of the most numerous as well as most distinguished assembly of physicians, surgeons, and teachers yet brought together in the interests of the healing art. It would be invidious to single out the instance or instances in which Signor Cardilli has been most felicitous in *pose* or presentation, but I may mention his success in reproducing for us the features and characteristic expression of Virchow, of Koch, of Pasteur, and among his compatriots of Lombroso, Durante, and of the President himself. The portrait of his Excellency Dr. Guido Baccelli is generally admired. A 'first copy' of the album having been struck off, Signor Cardilli, accompanied by Signor Panattoni, deputy in the Italian legislative body, waited on Dr. Baccelli and formally presented him with this memorial of the Congress. His Excellency signified his special gratification at this mark of recognition, and, while expressing his high appreciation of the album and of its artistic and historical value, suggested that it should, without delay, receive as wide a professional diffusion as possible."

THE PLAGUE IN CHINA.

As might have been anticipated, the discovery by Professor Kitasato of a bacillus in the bodies of patients suffering from plague, especially in the bubonic swellings and the spleen, has been followed by other announcements of similar researches. One of these is by Dr. Versin, of the Pasteur Institute of Saigon, who has discovered another bacillus, which he, too, claims to be the essential cause of the disease; and others, equally anxious to discover something, have swelled the list, so that, as our correspondent says, "the varieties of plague bacilli now outnumber the leaves in Vallombrosa." Amongst all these claimants for priority it will be difficult to decide who of them, if any, is entitled to have his fame handed to posterity as the discoverer of the cause of plague; but, as we have before remarked, the name of Professor Kitasato is a guarantee of accuracy in observation and care in research, and when the opportunity is given for the review of his work it will probably be found to meet the severest tests. Our correspondent, who writes from Hong-Kong under date June 26th, says that the epidemic is decidedly decreasing in that city, but that at Canton 1300 deaths were occurring daily.

"THE RESULTS OF THE HYDERABAD CHLOROFORM COMMISSION."

WRITING under this heading a correspondent of a contemporary makes some of the loose general statements about the Hyderabad Commission, about THE LANCET'S attitude, which he regards as one of "determined opposition" to the Commission, and about the history of the chloroform question, which, unfortunately, have grown so common. Too much stress cannot be laid upon the importance of accuracy in writing upon a subject like the chloroform controversy, as unless this is attained side issues invariably arise and overshadow if they do not quite obscure the main question. The position adopted by THE LANCET has been uniformly one of impartiality: it gave publicity alike to the views of those who with the late Dr. Sibley contended that death results not only from a gradual paralysis of the respiratory centre but by sudden heart failure, and to those who contend that every death from chloroform commences in respiratory paralysis. The inaccuracy of the writer to whose remarks we are referring is very strikingly focused in one sentence in which he cites Dr. Snow, Sir B. W. Richardson, Dr. Sansom, and Dr. Anstie as agreeing with the experiments of Mr. Wakley, which were held to show that "chloroform killed by paralysing the respiration, and not by paralysing the heart." A perusal of Dr. Snow's most lucid and painstaking work dealing with chloroform shows that he held that fatalities under chloroform resulted from two causes—the gradual failure of respiration when that function was interfered with by gradual accumulation of chloroform in the blood; and sudden death from syncope. In this last case Dr. Snow recognised that syncope might arise from other causes than chloroform, such as shock, loss of blood, &c. Again, Dr. Sansom, whose name is put forth as a believer in this crude

and imperfect summing up of the arguments in favour of the respiratory failure theory, wrote: "On comparing the phenomena in the case of these animals[1] with those of fatal chloroform narcosis in the human subject, it is at once seen that they are not identical; for while in the latter case [in that of human beings], both in instances of moderate and concentrated doses, the heart is nearly always the first to succumb, in the former the heart is in almost every case the last to die." Sir B. W. Richardson, while he supports the view now almost universally held that chlorine containing chloroform kills healthy animals by interfering with respiration, adds: "A little want of elasticity in the coronary arteries, an undue tendency to contraction in them, a deficiency of power from interstitial deposit in the muscular substance—any of these conditions is amply sufficient to account for death from the heart....." The writer whose remarks we are criticising then proceeds to enforce his opinion that safety lies in small doses. There have been many "safe ways" of giving chloroform vaunted, but, alas, no diminution in the death-rate has at present shown itself. It is a "serious indictment" which we made, but one to which we must adhere, that by far the majority of the deaths reported as due to chloroform are unnecessary and should not occur. If the sole work of the Hyderabad Commission had been to insist upon the grave responsibility resting upon the chloroformist it would still have rendered yeoman service in the cause of humanity.

PSEUDO-BULBAR PARALYSIS.

DR. W. S. COLMAN has recorded in *Brain* a case of this interesting condition. The patient was a man aged forty-nine who, a year before his admission to hospital, was noticed to drag his left leg in walking. This weakness passed off sufficiently to allow him to resume his occupation, but it recurred and rendered him quite helpless. Six months later there was some difficulty with articulation, and a few months later difficulty in swallowing and a simultaneous affection of the right leg occurred, rendering it as useless as the left. There was also an alteration in his mental condition, so that his laughter and tears were alike uncontrolled, but there were no hallucinations and no true aphasic difficulties. When he came under observation he was in this peculiar psychical state, ready to laugh or cry on the slightest provocation. He complained of loss of memory and he was dull and confused, and his articulation was very imperfect. The face, arm, and leg muscles were all weak, the weakness being more marked on the right side than on the left. The knee-jerks were exaggerated and ankle clonus was present on both sides and the jaw-jerk was also present. The tongue could only be protruded as far as the lips. There was no obvious wasting of it and no fibrillary twitching. The movements of the soft palate were impaired, and they afterwards became completely abolished. There was no sensory impairment. The patient died from bronchitis and at the necropsy the vessels at the base of the brain were found to be atheromatous. Degenerated fibres separated by normal bundles were found in both internal capsules, and in the right one was a patch containing hæmatoidin crystals, evidently the remains of an old hæmorrhage. Many of the small arteries in the neighbourhood were completely thrombosed. Descending degenerations could be traced throughout the whole length of the cord in the crossed pyramidal tracts and as low as the third dorsal root in the direct pyramidal tracts. The cells of the hypoglossal nuclei and of the anterior horns were not diminished in number or changed in appearance. The case is an interesting one, as showing how closely such a condition simulates bulbar palsy. The same close resemblance has been evident in similar cases recorded by Barlow, Lepine, Hughlings Jackson and Taylor, Ross, and others, and, as Dr. Colman points out, it must always be difficult, although we would hardly admit impossible, to diagnose the one condition from the other. The three points which Dr. Colman emphasises as important in diagnosis will, we think, generally be found sufficient. These are the usually asymmetrical nature of the limb affection in the cases of double hemiplegia, the absence of any marked wasting of the tongue, and the preservation of its electrical excitability.

[1] Referring to Dr. Sansom's experiments published in THE LANCET, May 11th, 1861, in which he found the heart's action persisted in the lower animals after respiratory failure.

DENTISTRY IN FRANCE.

THE *British Journal of Dental Science* draws attention to the new regulations with regard to foreigners wishing to practise dentistry in France. Such will in future have to pass the ordinary examinations and obtain the diploma in dental surgery. Those who were already practising on Jan. 1st, 1892, will benefit by the transitory arrangements provided under the new law. As our contemporary remarks, the condition of things is much the same as when the Dentists Act was passed in England. The time will be in the recollection of many when old practitioners came up to London to obtain the newly instituted diploma at the Royal College of Surgeons of England. At present a similar class of men in France are furbishing up whatever they knew of anatomy and kindred subjects. The series of examinations for the diploma commenced last month at the Faculty of Medicine in Paris, and the majority of the candidates were provincial dentists. A selection from the questions asked shows that the field is tolerably wide, so extensive even as to include the comparative anatomy of the generative organs.

SLANDERING A MEDICAL MAN.

AT the recent Warwickshire assizes a case of much interest to medical men was tried. It was an action for slander brought by Dr. Frederick Thorne of Leamington against Mr. C. T. Richardson, a retired Indian planter resident in that town. Mr. Richardson had sustained a fracture of the clavicle in the hunting field—a bad fracture, such as hunting-field accidents are apt to produce. It was in the middle of the bone, and it was difficult to keep the ends in perfect apposition; but Dr. Thorne treated the case on the ordinary principles and tried one or two varieties of bandage, finally applying the figure of 8 bandage. The patient was very irritable and impatient of bandages, saying that he would prefer a lump on the bone to the tight bandages. He became so irritable that Dr. Thorne declined further attendance or responsibility, and recommended that another medical man should be asked to take charge of the case. Thereafter the defendant spoke in disparaging terms of Dr. Thorne to several of Dr. Thorne's patients, and Dr. Thorne felt it necessary to bring this action. The defendant denied some of the language attributed to him, but he said he had suffered great pain, aggravated by a tendency to jungle fever which he said Dr. Thorne did not treat. Mr. Thomas Smith of St. Bartholomew's Hospital gave evidence in support of the treatment, and said it was quite proper. He said he would have done just the same, both as to bandaging and retiring from the case. Dr. Smith of Leamington, when called on, said he found the defendant ill, with a pulse of 50. He did not suggest any improper treatment; nor did Mr. Oliver Pemberton of Birmingham, who said the result was excellent so far as the bone was concerned. In fact, the disparagement of Mr. Richardson was shown to be entirely groundless. The judge pointed out that the statements, if made, were calculated to damage a professional man's reputation and ought not to have been made except on substantial grounds. The jury found for the plaintiff with £25 damages. We are glad that Dr. Thorne took the case into court. It is most unreasonable for a patient to hold a

surgeon responsible for pain and to blame him for applying the most approved treatment, as Dr. Thorne did here, even in the opinion of witnesses for the defence; and when to impatience and peevishness he adds slander which becomes sown broadcast, it is high time to appeal to the law for redress. Dr. Thorne's action, both in its surgical and ethical aspects, will commend itself to all members of the profession and, indeed, to all reasonable persons.

DEMENTIA AND INCOÖRDINATION IN CHILDREN.

DR. BOUCHAUD records in the *Revue Neurologique* two curiously interesting cases. The patients were brother and sister, one aged six and the other aged seven at the commencement of the illness. This began with a certain amount of intellectual weakness and incoördination in all four limbs. The gait was like a combination of the tabetic and cerebellar, but no paralytic symptoms were present and no nystagmus. The knee-jerk was absent in one patient and much diminished in the other, but the superficial reflexes were retained, the speech was slow but the articulation good, and the expression was always bright. The symptoms, both physical and psychical, became gradually worse, the speech unintelligible, and difficulty in chewing and swallowing was superadded. The sphincters became affected, and muscular rigidity became marked. The muscles wasted, but there was no fibrillary twitching. Scoliosis gradually developed, and bedsores were the final stage of the illness. In the boy meningeal symptoms were present before death, but the girl died from marasmus and influenza. An examination of the cords revealed in one case sclerosis in both lateral columns, while in the brain there was an absence of medullated fibres. In the other case there was a similar condition in the cord. Otherwise the nervous structures showed no abnormality, although the anterior horn cells were perhaps reduced in number.

THE DIFFUSION OF SMALL-POX.

WE give the facts as to small-pox in London in another column. The malady seems to have subsided completely in West Ham. At Walsall there were last week but 2 cases, and 17 at Birmingham, with 4 deaths, and the sanitary authority now hope that the disease will shortly die out, at any rate for the present. Much space has been occupied in some of the Midland newspapers concerning the death of a man in Coventry, who is held by the health officer to have been unvaccinated, but who is, on the other hand, stated by the anti-vaccination party to have been primarily vaccinated. The latter party appear to be catching at straws. Stockport is not yet free from small-pox, cases having been recorded again last week. There were 22 fresh attacks at Manchester, and 1 death; whilst several other towns in Lancashire and many in Yorkshire had experience of the disease, Middlesbrough having half a dozen cases. At Leith the end of the first week of July found 49 cases in hospital, and this number decreased to 28 a fortnight later. The Coalhill Hospital has been closed, only 10 new cases having come to light in the fortnight. Over 7000 persons have been vaccinated at the public expense at a cost of some £600. Two cases of small-pox were reported and isolated in Dublin last week.

OVARIOTOMY DURING PREGNANCY.

IN the *Archive de Tocologie et de Gynécologie*[1] there is an article by Dr. R. Condamin on the treatment of ovarian tumours complicating pregnancy, with an account of two cases of the kind which had come under his notice. The question discussed is at what period should ovariotomy be undertaken: should the operation be undertaken during pregnancy as soon as the tumour has been detected, or not until after the confinement? Dr. Condamin's two cases point to the advantage of operating as soon as the tumour has been discovered. In one of them ovariotomy was not performed till about three months after the confinement, and in that case the patient had become very ill before the operation was undertaken, with great pain and high temperature. When the abdomen was opened the pedicle of the tumour was found to be twisted six or eight times, and the appearance of the cyst wall here and there suggested that gangrene was about to supervene. The patient recovered, but from the account given it is evident that her condition was during part of the time such as to cause anxiety. Dr. Condamin believes that the lax condition of the abdominal walls naturally resulting after labour is an important factor in facilitating twisting of the pedicle when there happens to have been an ovarian tumour complicating the pregnancy. In the other case related ovariotomy was undertaken at the fifth month of pregnancy; the operation was perfectly simple and the after history uneventful. It is not, however, expressly mentioned whether or not the patient went her full time. Dr. Condamin refers also to the series of post-partum ovariotomies published by Dr. Aust Lawrence last year, and he considers that an examination of the details of these cases strongly supports the conclusion to which he has himself arrived—namely, that when an ovarian tumour is discovered during pregnancy there are no advantages—but, on the contrary, many serious disadvantages—in delay, and that ovariotomy should be performed as soon as possible. We may add that this accords with the opinion generally held in England.

[1] Vol. xxi., part 4.

SHAM NURSES.

IT is reported that fashion, late but for once true in taste, has begun by occasional ventures to appropriate the seemly nursing costume as part of her system of decoration. We need not be surprised at the preference thus expressed. Cleanly, simple, neat, but undemonstrative as it usually is, the dress of female attendants on the sick was not likely to escape entirely from the flattery of imitation. Nevertheless we consider its exhibition at all times and places, and especially its use by those who have no professional title to its use, to be an error and a folly. The nurse's apron, cloak, and bonnet are as much her distinctive regimentals as military scarlet is the national guarantee of a soldier's position. Wearing it we know exactly who and what she is, we can somewhat gauge her character by her attire, and we can trust her service; but if any and every admirer of her comely dress may ignore its distinctive character we lose much more than can be gained by a usurping fashion. The meaning is entirely gone. The casual wearer may be anyone—no merely innocent masquerader, not even the glorified jackdaw of the fable, a nameless attraction only, a person void of personality, perhaps not insignificant, but certainly, in the indications of her clothing, unreliable. It is to be hoped, for the credit and continued usefulness of a class representative of the highest womanhood and not less for our common security against a mischievous deception, that every means which public sense can employ will be used to baffle this new strategem of thoughtless or unscrupulous fancy.

THE TREATMENT OF INFANTILE TUBERCULOSIS AND RACHITIS IN FRANCE.

AT the Congrès de Bains de Mer, lately held at Boulogne, a note on the proceedings at which will be found in another column of our present issue, an interesting account was given of the treatment of rachitis at the children's hospitals at Berck, at Arcachon, and at Banyuls-sur-Mer. The hospital at Berck is supported by the municipality of Paris, with payments for patients from other places; and the other institutions exist by subscriptions, by payments from

their patients, or from the departments from which they are sent. Grants are also received from the Œuvre National des Hôpitaux Marins, from the Assistance Publique de Paris, and from a fund at the disposal of the Ministre de l'Intérieur. Rachitic manifestations are always considered curable if treatment is commenced early—that is to say, soon after the child has been weaned—and a period of two or three years is allowed for recovery. In the various forms of tuberculosis—internal, glandular, osseous, and articular—the percentage of recoveries was from 55 to 77, and glandular swellings have invariably yielded to treatment. At Banyuls-sur-Mer, during a period of five years, 463 children have left the hospital, and 22 have died. Of the discharges 72·57 per cent. were perfectly cured, 14·19 were improved, and 7·77 discharged or removed for want of funds &c. before improvement had taken place. The patients increased in weight 3·945 kilos per annum, and the duration of residence of patients cured in multiple tuberculosis showed an average of 310 days (the lowest), and in scrofula of the skin and mucous membranes 506 days (the highest).

MR. CHARLES E. CASSALL, F.I.C., public analyst for Kensington and St. George's, Hanover-square, has been elected honorary president of the Seventh (Food) Section of the forthcoming International Congress of Hygiene and Demography at Budapest.

METROPOLITAN HOSPITAL SUNDAY FUND.

A MEETING of the council of the Metropolitan Hospital Sunday Fund was held at the Mansion House, London, on Tuesday last, July 30th, under the presidency of the Right Honourable Sir George Robert Tyler, Bart., Lord Mayor, to approve of the report of the Committee of Distribution for the present year.

The committee in their report recommended awards to 182 institutions, being one more than last year, and an increase of seventy-seven since the first awards were made in 1873. The total amount available for distribution is £41,800, and of this amount £39,865 is recommended to 127 hospitals and fifty-five dispensaries. Five per cent. of the total is set apart for the purchase of surgical appliances. Awards were recommended to 165 institutions on full bases, to nine on reduced bases, and to the remaining eight the committee did not feel justified in making any awards.

Sir SYDNEY WATERLOW, Bart., the chairman of the council, in moving the adoption of the report, said it gave him much pleasure and gratification to ask the council for the twenty-second time in regular succession to confirm the recommended awards. He thought he was fairly justified in congratulating the meeting upon the success of the Fund this year, a success which, looking at the great commercial depression, its best friends had scarcely hoped for; but, in spite of great difficulties, the sum available for distribution was £41,800 as against £35,400 last year. This success was largely owing to the munificence of Sir Savile Crossley. The work this year had been, too, more than usually trying. The number of deputations representing committees of various institutions invited to confer with the committee and to offer explanations on matters of apparently unsatisfactory character was twenty. Of these, one elected to leave the award entirely in the hands of the committee; three took no notice; and, of these three, two were not recommended for any award, and one for a reduced award. Thirteen deputations attended; and, of these thirteen, four were recommended on their full bases, six on somewhat reduced bases, and three were recommended for *nil;* one application had to be refused as coming from a "penitentiary"; and one for declining to comply with the "uniform system of accounts." One hospital has been marked "*nil*" consequent on the very unsatisfactory condition of its wards and the public complaints made against the general management. He greatly regretted all the circumstances connected with this case and hoped the council would agree with the committee in making no award. With regard to the Queen's Jubilee Hospital an award had been made of a small sum in order to give it one more chance.

The Rev. J. F. KITTO, in seconding the report, thought that no one would have been surprised had the total sum collected fallen below the standard. He hoped they had not yet reached the highest point.

Dr. GLOVER referred to the institution to which Sir Sydney Waterlow had made allusion and wished to know whether the Distribution Committee had invited the authorities of this hospital to an interview.

Sir SYDNEY WATERLOW said that the committee had written to the authorities at the hospital, calling attention to the matter, and had informed them that they should not adjudicate on their application until they had received the report of the Committee of Investigation. The report was forwarded to the Distribution Committee, but no further explanations were made.

Dr. GLOVER thought it would have been better if the committee had had a personal interview with the hospital authorities. Still, had this been done he felt, with the Committee of Distribution, that the conclusion they had arrived at now would have practically been the same. In future, he thought, when an institution lay under a dark shadow, the Distribution Committee should have a personal interview.

The report of the Distribution Committee was unanimously adopted.

Archdeacon SINCLAIR, in proposing that the cordial thanks of the council be given to Sir Sydney Waterlow as chairman, and to the members of the Distribution Committee, said that everyone interested in hospital work must feel that the labours of the committee had been done in a most satisfactory manner.

Mr. C. T. RITCHIE, in seconding this resolution, said it was a disagreeable thing for the committee to have to refuse a grant on the ground of inefficient management, but one part of their duty was to separate the sheep from the goats, and to bring up to a condition of efficiency those institutions which were not in that state which they desired them to be. The men composing the committee had courage, ability, and determination, and it was for the benefit of hospitals generally that such men gave the great amount of time and attention that they did to the weighty matters under their control.

Sir SYDNEY WATERLOW, replying, cordially thanked his colleagues for the assistance which they had always given him. This year the committee had received great assistance, owing to the fact that nearly all of the accounts had been on one uniform basis; he regretted, however, that some institutions had issued one report to the Hospital Sunday Fund and another to their supporters. The Fund required that the one report only should be used. He referred with regret to the resignation of Sir Owen Roberts and said it was proposed to ask Sir Savile Crossley to accept the vacant seat on the committee.

Sir OWEN ROBERTS proposed, and Mr. NORMAN seconded, a vote of thanks to the newspaper press for their advocacy of the cause of the Fund.

Mr. F. C. CARR GOMM thanked the Lord Mayor on behalf of the council, who as President of the Fund had devoted his valuable time to promote its growth.—Mr. BRISTOW seconded.

The LORD MAYOR thanked the Council, and referred to the Whittaker legacy of £5000 and to the magnificent sum raised by Canon Fleming.

The proceedings then terminated.

Among those present were Sir Sydney Waterlow, Mr. H. Cosmo Bonsor, M.P., Sir Owen Roberts, Sir Savile Crossley, Archdeacon Sinclair, the Rev. J. F. Kitto, Mr. F. C. Carr Gomm, the Right Honourable C. T. Ritchie, Dr. Glover, Mr. Wakley, and Mr. H. N. Custance (secretary).

THE PLAGUE AT HONG-KONG.

THE correspondence relative to the outbreak of bubonic plague at Hong-Kong has been published. It occupies nineteen pages, and as it was presented to Parliament on July 13th last does not give some of the latest information that has been received in this country. For the most part our readers are already acquainted with the facts, which have been

already published in THE LANCET and in the columns of the daily press, and it is therefore only necessary now to call attention to some of the more salient and special points connected with the outbreak in question. The correspondence commences on May 16th with the transmission of the copy of a telegram from H.M.'s Minister at Lisbon, reporting that Hong-Kong is declared to be infected with bubonic plague. On the receipt of this telegraphic inquiries were sent from this country to the Governor of Hong-Kong, who reported, in reply, on May 18th, that the alleged outbreak had actually occurred and that there had been nearly 200 cases of plague up to date, chiefly among the lower classes of Chinese. In June other telegraphic reports were forwarded as to the increased prevalence and mortality of the disease, its appearance among a few British soldiers in the garrison, the panic which had arisen, causing the exodus of 80,000 of the population from the colony, and the disastrous effect of the epidemic outbreak on the commercial interests of the colony, together with the precautions that had already been taken and the vigilant efforts that were being made to stamp out the disease. A telegraphic report, received on June 28th, stated that the mortality up to date was 2215 and that the epidemic was abating. Subsequent reports continued to show further improvement. That the disease was really and indeed bubonic plague was indubitable; the excellent, though necessarily succinct and abbreviated, reports furnished by the Government medical officers at Hong-Kong left no room for doubt on this head. As regards its origin, it appears that an epidemic and fatal disease was depopulating certain quarters of the city of Canton towards the end of March, and, according to a communication of April 26th, the nature of the disease then prevalent in Canton and causing considerable mortality was declared to be identical with plague. The first case seen in Hong-Kong by Dr. Jas. A. Lowson—who had only just returned from Canton, whither he had gone to ascertain the actual nature of the epidemic prevailing there—was on May 8th, but on the 10th he found on inspecting some cases at the Tung War Hospital in Hong-Kong that there were approximately twenty individuals affected with, and in an advanced stage of, that disease. Moreover, it appears from a report of the British Consul at Pakhoi to the Colonial Secretary on the prevalence of plague at that place that the disease is endemic there, taking an epidemic form at intervals of five to ten years, or even more frequently, and that the mortality from it had been worse in 1894 than in any on record. The Consul, referring to a brief medical history of Pakhoi in respect of the occurrence of plague for several years past, shows from Chinese sources that even before 1875 the disease was not at all unknown there. As was the case in 1894, the disease has generally proved most fatal and most severe from the middle of April to the middle of May. Whether at Hong-Kong or elsewhere the development of the disease when once introduced depends upon its finding a suitable soil—favourable conditions of environment. It is reported from Singapore that the steamer *Parkshan*, with a large number of Chinese passengers from Swatow and Amoy, arrived there in the middle of June, and that the health officer discovered that a Chinese stoker shipped at Hong-Kong was suffering from plague, the diagnosis being concurred in by the chief medical officer for the colony, Mr. Simon, and the municipal health officer. Upon the occurrence of the outbreak in Hong-Kong the energetic and enterprising Japanese Government despatched Drs. Kitasato and Ooyama—both of whom had spent some years in Berlin and studied bacteriology at Koch's Institute—to the scene of the epidemic. We have already announced [1] that Dr. Kitasato has discovered and described a specific plague bacillus. It is highly probable that we shall hear further details of these and other investigations regarding these micro-organisms and their breeding grounds at the forthcoming International Congress of Hygiene and Demography at Budapest next month. As far as the bacteriological side of the disease is concerned there will probably be many local *savants* keen on discovering a specific bacillus, and it is necessary to caution the profession against accepting all the statements which will no doubt be put forward in this respect.

We must not omit to add, in the meantime, that the authorities in Hong-Kong seem to have acted, under the circumstances in which they were placed, with promptitude and judgment, and that the medical officials concerned were especially energetic and zealous in their efforts to deal with the disease and limit its spread.

[1] THE LANCET, June 23rd, 1894.

ARMY MEDICAL SCHOOL, NETLEY.

THE sixty-eighth session of the Army Medical School, Netley, was brought to a termination on Monday, July 30th, when the prizes were distributed and an address was delivered by Dr. Weir Mitchell. The results of the examinations held at Netley from July 23rd to 28th, and the final order of merit as established by the combined results of the London and Netley examinations, were read by Brigade-Surgeon-Lieutenant-Colonel Notter, M.D., secretary to the Senate of the Army Medical School, in the presence of a distinguished company, which included the military and nursing staff of the Royal Victoria Hospital, Sir Joseph Fayrer, K.C.S.I., Surgeon-General W. C. Maclean, C.B. (formerly Professor of Military Medicine in the Army Medical School), Surgeons-Colonel Kenneth McLeod and Tandy (late of the Bengal Medical Service), and a number of visitors of both sexes.

The following is a list of the successful candidates :—

BRITISH MEDICAL SERVICE.

List of surgeons on probation of the medical staff of the British army who were successful at both the London and Netley examinations :—

	Combined marks.		Combined marks.
1. Evans, P.*	5400	6. Buist, J. M.	4576
2. Miler, A. E.†‡	4734	7. Walker, J.	4446
3. Morgan, C. K.	4666	8. Dove, F.	4340
4. Silver, J. P.	4633	9. Thom, G. St. C. ...	4207
5. Vaughan-Williams, H. ...	4586	10. Sweetnam, S. W. ...	3940

* Gained the Montefiore Medal and Prize of 20 guineas, and the De Chaumont Prize in Hygiene.
† Gained the Montefiore second Prize.
‡ Received honourable mention as distinguished in the department of Hygiene.

INDIAN MEDICAL SERVICE.

List of surgeons on probation in Her Majesty's Indian Medical Service who were successful at both the London and Netley examinations :—

	Combined marks.		Combined marks.
1. Ramsey, G.*	5804	8. Hayward, W. D. ...	4562
2. Sutherland, D.†§‖¶ ...	5690	9. Russell, A. W. F. ...	4435
3. Selby, W.†**‖	5224	10. Bennett, V. B.** ...	4404
4. Granger, T. A.§	4828	11. Scott-Moncrieff, W. ...	4310
5. Bamfield, H. J.	4818	12. Moore, H. M.	4252
6. Grant, J. W.	4691	13. Johnstone, D. C. ...	4218
7. Moorhead, A. H.	4585	14. Pearce, C. R.	4084

* Gained the Martin Memorial Gold Medal.
† Gained the Herbert Prize of £20, with the Prize in Pathology and the Prize in Clinical Medicine presented by Surgeon-General Maclean, C.B.
‡ Gained the Parkes Memorial Bronze Medal.
§ Received honourable mention as distinguished in the department of Military Surgery.
‖ Received honourable mention as distinguished in the department of Military Medicine.
¶ Received honourable mention as distinguished in the department of Hygiene.
** Received honourable mention as distinguished in the department of Pathology.

Dr. Weir Mitchell delivered an address in which he said that much of his success in life was due to the chances which were thrown in his way by the great American War, he having been for four years a surgeon in the American army. He deeply sympathised with the thoughts, feelings, and ambitions of men about to carry into the army the best training and traditions of the most progressive and most highly vitalised of all the professions, and hoped they would not think it out of place if he ventured amid his congratulations to say a few words of kindly advice and warning. The prizes represented, as would also their commissions, the hard-won result of years of work. They were both pledges and rewards. Plenty of men had intellect enough for success in life; a far smaller number possessed in full competency the moral qualities without which the best mental endowments were crippled. Where this fertilising outfit of character was wanting even genius might fail to be effective; with character at its best men of lesser intellectual endowments might win prizes denied to those who lack the applicative qualities which alone ensure success. Above every other characteristic he desired for all of them persistent energy, remembering that care as to little things was of vast moment in medicine. He exhorted them to become decisive, and to cultivate sanguine views as to the cure of disease. The mental capital which each one possessed was

probably capable of being educated in time to a definite limit and not beyond it; but for the talents of the heart, and as concerned the greater and lesser moral characteristics, there was no such limitation. These might have a life-long growth, and he found it pleasant to remind them that even mere business success in medicine might be largely aided by the possession of qualities which depend more on the heart than on the head. Physicians like Parkes, who enjoyed the affection as well as the respect of men, were doubly forceful. Such efforts would surely end in making them devoted servants of their country, their Queen, and, too, of a far mightier Sovereign. Many dangers lay before them. The popular belief was that they were less liable than others to contagious disease. He had had sad experience that this was false. Those who were called non-combatants were always in battle; and, as to actual war, in our civil strife the medical corps suffered in killed and wounded, relatively as to number, as much as did the line officers of equal rank. There was one kind of doctor who was good, careful, and industrious, and did his work reputably; but there was quite another kind who to all this added an insatiable desire to know the why and the wherefore of the phenomena of disease—he was generally the better physician. To this latter category he hoped they would all try to deserve to belong. In the hours of disappointment they must remember that failure was relative, and that if promotion in rank was a fine thing promotion of character was a nobler thing. Above all they must take care how they made use of defeat. The feebler succumbed to such disasters; defeat energised the strong and filled them with new desire to justify their belief in their own fitness. These were those who analysed defeat and saw if there had been just cause in themselves for non-success. Duty was the very note of the nobler life, it was the word which rang through the great history of this masterful nation—he liked to say, of his race. If they kept their bodies wholesome and clean from excess, their minds in training, and their moral natures by habit what they should be, then, whether it was for the wearisome ward, the pestilence, or the battlefield, they would be ready and would have but one question to ask—Is it my duty? If it was, that was enough. He hoped what he had said so briefly and so earnestly might in days to come be remembered helpfully, as the words of a stranger who loved and honoured England, and who believed their profession and his to be the best test of character and mistress of the highest opportunities for usefulness and true service of God which this earth afforded.

Sir Joseph Fayrer then addressed the young officers, congratulating them all, and then, speaking specially to those of the Indian Service, reminded them that they were not only the medical officers of the Indian Army, but also the civil surgeons, the teachers in the medical schools, and the representatives of our grand profession placed by Government among the teeming millions of natives who inhabited our great Eastern empire. Addressing Dr. Weir Mitchell, he thanked him in the name of the Senate of the school for coming to distribute the prizes and for his eloquent address.

After a few words from Surgeon-General Maclean and Surgeon-General-Major C. H. Giraud, principal medical officer at Netley, the proceedings were closed by Professor Lane Notter.

The company was afterwards entertained at lunch at the Army Medical Staff mess.

CHOLERA.

THE cholera returns from St. Petersburg have shown a slight abatement in the epidemic. The total number of cases under treatment in that city ranges at present between 600 and 700, which is less than that of the preceding week. The number of fresh cases is from 60 to 80 daily, and the mortality may be taken as about half of those attacked. This is likewise indicative of slight improvement. The municipal sanitary board exercises a vigilant supervision over all matters connected with the public health, and especially with a view to the prompt discovery of all fresh cases of cholera. Provision shops and markets and public and private dwellings are periodically inspected, and the condition of the river and canal water is ascertained from time to time by chemical and bacteriological tests. Heavy showers of rain have fallen in St. Petersburg, with a beneficial effect as regards sewage and surface cleanliness and a reduction of temperature.

Intelligence from Berlin shows that cholera continues to manifest itself in the German part of the basin of the Vistula, chiefly among the raftsmen and bargemen and their families, with an occasional case in the riparian population. The disease so far, however, prevails to a very limited extent. Every precaution is taken with regard to the Russo-German frontier and the basin of the Vistula.

A fatal case of cholera occurred on board a steamer arriving at Lubeck from St. Petersburg.

As regards the reports from Vienna it would appear that the epidemic is not gaining in intensity, although it seems to be slowly extending. About 20 or 30 fresh cases daily are returned from Galicia. Altogether 138 cases and 58 deaths have occurred in the last three or four days.

The correspondent of the *Standard* reports from the Hague that a serious increase of cholera has occurred at Maastricht, the capital of the province of Limburg. The disease is believed to have been imported from Liège. Up to the 30th ult. there had been 13 cases and 6 deaths. Two fatal cases of choleraic disease have also been reported from Rotterdam.

As regards the prevalence of cholera in France the statements are conflicting. From Madrid we learn that the Spanish Government has received a despatch from its consul at Marseilles to the effect that a number of cases of cholera —some of them fatal—had occurred in that town. On the other hand, an official statement by the Mayor of Marseilles contradicts this report and alleges that there is no trace of cholera epidemic, the average death-rate of the town being no greater than that for the past two years, and protesting against the imposition of quarantine on vessels arriving from Marseilles as consequently unjustifiable.

As regards this country, the arrival of the steamship *Acme* at Gravesend from Cronstadt on the 27th ult. gave rise to some exaggerated rumours. It appears that whilst at Cronstadt some of the crew of the steamer were attacked with cholera and were landed there; one died. Some diarrhœa occurred, too, among some of the remainder of the crew. On arrival at Gravesend the ship was regarded as infected; the bilges and water-tanks were pumped dry and cleansed, and the vessel and all its belongings were disinfected, after which the crew were allowed to proceed to their homes, notice being forwarded to the sanitary authorities of their respective districts. Nothing has since occurred in respect of them.

THE BRITISH INSTITUTE OF PUBLIC HEALTH: CONGRESS IN LONDON.

THE Congress which came to a conclusion on Tuesday last may be looked upon as a practical success. The organisers managed to bring together people well qualified to speak upon many highly important topics, and, on the whole, good papers were read.

On Saturday evening Professor Crookshank gave a most interesting lecture on Microbes in Health and Disease to a large popular audience. The lecture was profusely illustrated by apparatus, cultivations, and lantern slides, and the minute description of the size, form, life history, and methods of detection and artificial cultivation was carefully followed by the audience. The various forms of bacteria were divided into those forming pigment and those producing putrefaction, fermentation, and disease; and typical examples were shown of each of these classes. The formation of ptomaines by the bacteria of decomposition and their dangerous consequences were pointed out. In discussing the bacteria producing disease, Professor Crookshank mainly dealt with the well-known forms, such as tubercle, anthrax, leprosy, and diphtheria. The discovery of the bacillus tetanus was also referred to, as promising a possibility of preventing the onset of this terrible disease, and the discoveries of Sir Joseph Lister and the results of his treatment of wounds were most eloquently dealt with. A cordial vote of thanks was given to the lecturer, whose lucid and clear exposition of a difficult subject was closely followed by a most appreciative assembly.

The social side of the Congress seems to have been much appreciated. The members were entertained at dinner by the Society of Apothecaries and by the Worshipful Company of Carpenters. An expedition was organised to Hatfield, and on Tuesday last Dr. Langdon-Down entertained a large number of the members at a garden party at Hampton Wick.

A well-attended reception at the Guildhall, given by the Corporation of the City of London, formed a fitting close to the Congress on Tuesday night.

The work of the various sections began on Thursday, July 26th, and the meetings were, on the whole, well attended.

PREVENTIVE MEDICINE.

In this Section Sir Peter Eade, M.D., F.R.C.P., the President, delivered an opening address upon Preventive Medicine, which we print at length in another part of this issue. Later in the day a paper was read by Dr. J. Priestley upon—

The Aerial Diffusion of Small-pox.

Dr. PRIESTLEY said: "The subject for discussion to-day is an important one, and I am tempted to give you my own experience somewhat in detail: firstly, because I was at one time *against* the aerial theory of the spread of small-pox from hospitals; and, secondly, because the Leicester experience is practically unique. Whilst admitting all the arguments that may be brought against the aerial theory, I am bound to confess that some, at least, of the facts that I have met with during the Leicester epidemic are only explainable on such a theory. You may, however, judge for yourselves from the following facts. About the middle of June, 1893, the cases of small-pox notified as occurring in Newfoundpool district became numerous, and it has been impossible to explain many of them except by assuming that they became infected from the hospital. The exact manner in which this is brought about is, I confess, a somewhat difficult question to decide, though it would seem to be either (*a*) *directly* through contact between patients and people outside the hospital, and by infection carried out by visitors, members of the staff, &c.; or (*b*) *indirectly* through the air, which may be (1) the atmosphere or (2) sewer gas—i.e., through the drains. Probably both means of infection play important parts. What is found in Leicester is that the comparatively greatest number of cases is to be met with at Newfoundpool, a community consisting of about 3000 people living in 600 houses. The position of the houses in regard to the hospital is south or south-west, whilst the distance of the nearest houses from the hospital is 620 feet and that of the furthest 1750 feet. In this way a circle of 2000 feet radius, with the hospital as a centre, would take in all the houses. Newfoundpool being, as it were, an isolated suburb, we can easily treat of it separately, though by reference to a map of Leicester it will be seen that with a circle of double the above radius many cases of small-pox that have occurred in the north end would also be included.

"Taking the cases from the commencement of our epidemic, and analysing them, we find that:—

In December, 1892, there sickened	3 cases	Beatrice-road	2
		Pool-road	1
In January, 1893, ...	5 ..	Beatrice-road	2
		Pool-road	3
In February, 1893, ...	0 ..		
In March, 1893, ...	1 ..	Ruby-street	1
In April, 1893, ...	1 ..	Ruby-street...	1
		Ruby-street	1
In May, 1893, ...	3 ..	Hawthorne-street ...	1
		Beatrice-road	1
		Rowan-street	2
In June, 1893, ...	16 ..	Beatrice-road	9
		Ruby-street	2
		Ivanhoe-street	3
		Beatrice-road	3
		Ruby-street	2
In July, 1893, ...	10 ..	Ivanhoe-street	1
		Sylvan-street	2
		Newport-street	1
		Fosse-road	1
		Oban-street...	1
		Ruby-street	2
In August, 1893, ...	6 ..	Newport-street	2
		Beatrice-road	1
In September, 1893, ...	1 ..	Newport-street... ...	1
In October, 1893, ...	0 ..		
		Beatrice-road	3
In November, 1893, ...	4 ..	Ruby-street	1
		Beatrice-road	2
In December, 1893, ...	5 ..	Ruby-street	3

"There have thus been 55 cases of small-pox in Newfoundpool, representing 38 infected houses, of which 16 were in Beatrice-road (23 cases), 8 were in Ruby-street (13 cases), 4 were in Ivanhoe-street (4 cases), 2 were in Newport-street (4 cases), 2 were in Rowan-street (2 cases), 2 were in Sylvan-street (2 cases), 1 was in Hawthorne-street (1 case), 1 was in Oban-street (1 case), 1 was in Pool-road (4 cases), and 1 was in Fosse-road (1 case).

"Further, of the 16 infected houses in Beatrice-road 11 were on the side nearest to the hospital (the back doors of the houses facing it), whilst Ruby-street, Ivanhoe-street, Newport-street, Rowan-street, Sylvan-street, Hawthorne-street, Oban-street, and Fosse-road all run at right angles to Beatrice-road (Rowan, Hawthorne, Ruby, and Ivanhoe streets being nearest to the hospital at the respective distances, measuring to the middle of the streets, of 1060, 1075, 1100, and 1150 ft.

"Out of a total of 347 cases of small-pox 55 have occurred at Newfoundpool, giving a case-incidence there of 18·3 per 1000 of the population as compared with 1·6 per 1000 for the rest of the borough—that is to say, the Newfoundpool people have suffered eleven times as much as the rest of the town. It is only fair, however, to examine these 55 cases more minutely to find out, e.g., how many have arisen from previous cases and how many there are for which we fail to discover any definite source save that of probable infection from the hospital. As the result of my examination I find that out of the 55 cases 20 may be attributed to previous ones—i.e., may be regarded as quarantine cases. Deducting these 20 cases, we still have 35 cases (representing 34 infected houses) whose sources of contagion are difficult to explain, save on this theory of hospital infection. Treating now the rest of the cases in the town in the same way—i.e., deducting all those that have arisen from previous cases (as traced out by me) and comparing them with the Newfoundpool ones—we find that the ratio is as 1 to 20.

"So, too, by working out the number of *houses* infected in Newfoundpool and the rest of the borough, we find the ratio as 1 to 15.

"Thus, however we examine the subject—whether from the point of view of all cases, corrected cases, or infected houses—we find that Newfoundpool district has suffered eleven to twenty times as severely as the rest of the town, and in my opinion this state of things has been brought about by the close proximity of the Small-pox Hospital. The death-rate of the Newfoundpool cases is 7·2 per cent., as compared with 5·8 per cent. for the rest of the borough.

"Taking the June cases (16 in number), we find that they sickened between the dates June 8th and 30th, and, dating back from twelve to fourteen days for the incubation period of small-pox, we may assume a period of acute infectivity in Newfoundpool district between May 25th and June 18th. If, now, we analyse the weekly hospital returns we find that during the same period (May 25th to June 18th) the average weekly number of small-pox cases in the wards was 46. Treating the July cases (10 in number) in the same way, we find a period of acute infectivity in Newfoundpool extending from June 20th to July 15th, during which period the weekly average of hospital small-pox cases was 34. Combining these two periods of acute infectivity, it would appear that the hospital practically caused its greatest infection in the month of June, during which the weekly average of small-pox cases in the hospital was 49—a larger average than in any month during the year, except February, when the weekly average was 54. Why small-pox did not spread into Newfoundpool during February is a question which naturally suggests itself, and to endeavour to answer which I will now proceed. As mentioned previously, there are various ways in which a small-pox hospital may act as a centre of infection. 1. It is acknowledged that infection may spread directly from person to person; so that it is readily understood how contact between patients, officials, visitors, &c., in the hospital and persons outside may spread the disease. Personally I have been unable, however, to trace such contact, and the stringent rules that have been enforced during our epidemic have, moreover, practically rendered such a means impossible. Even assuming such contact to have taken place, it is strange that it should have happened in June and not in February. 2. Air-borne infection does seem to play a part in small-pox epidemics if we may judge from various reports, not only those specially published by the Local Government Board, but also those

that have lately appeared in connexion with recent small-pox outbreaks in various large towns. This air-borne infection may be (*a*) above ground—i.e., through the atmosphere—or (*b*) underground—i.e., through the drains; and in either case it is reasonable to suppose that, taking a hospital as a centre, the cases would crop up more thickly the nearer the houses were to that hospital. Such is the case with the infected houses in Newfoundpool. In considering this air-borne infection there are many matters deserving our attention. Foremost are the accompanying meteorological conditions—e.g., rainfall, temperature, direction of winds, &c.—and in considering these conditions I have been struck with the great difference as between February and June (see Table). In February the rainfall was 2·12 inches; the mean temperature low, varying from 45° to 31° F.; whilst the direction of the winds was principally west and south—i.e., away from Newfoundpool, and the state of the weather was blue sky on nine occasions and cloudy on fourteen, whereas in June the rainfall was 0·64 inches, the mean temperature high, varying from 70° to 45°, whilst the direction of the winds was principally north and east—i.e., right over Newfoundpool from the hospital, and the state of the weather was blue sky on nineteen occasions and cloudy on nine. Meteorological conditions, therefore, would certainly favour the spread of germs from the hospital towards Newfoundpool during June, but not during February. The barometric pressure was low in February, high in June. 3. Another means by which germs might be carried is by flies, rats, &c., and, though at first blush this may seem a far-fetched theory, when examined more carefully it is not so. Some recent experiments made by Lawtschenko show that cholera bacilli can live in the alimentary tract of a fly and be found alone in the excreta. He fed flies on the intestinal contents of cholera cases and found the characteristic bacilli in their alimentary canals and their excretions afterwards. Considering the number of flies and rats we have had at the hospital (the flies we might speak of as a plague, in such quantities were they), it is easily understood how they might carry infection about, more especially during the warmth of June than during the cold of February.

"Everything, therefore, seems to favour the theory that our small-pox hospital has, during part at least of our epidemic, been a centre of infection; but the exact mode in which that infection has spread it is somewhat difficult definitely to decide, though personally I am satisfied that the air has played an important part. Germs might also pass through the drains and be drawn by the ascensional force of evaporation through sewer gas into the houses. It is, I believe, thought by some that Newfoundpool district is insanitary, allowing of the escape of sewer gas into and around the houses there. I accordingly had all the houses infected by small-pox examined by the smoke test, with the result that of thirty-eight only eight showed any sanitary defects, and those but slight ones. Further, it is a remarkable fact that during our epidemic of typhoid fever (1893)[1] no case directly arose in Newfoundpool, and yet typhoid fever is acknowledged to be an index of the sanitary, or rather insanitary, state of a house or district.[2] I also had the whole of the houses on the north side of Beatrice-road—i.e., all those houses whose backs face the Small-pox Hospital and are separated therefrom by 622 ft.—examined by the smoke test, with the result that out of a total of fifty-hour houses forty-one gave no results and thirteen showed slight defects—viz., escapes of sewer gas into external closets, through rain-water pipes connected direct with drains, or from round about defective gullies (sinks). Of these thirteen houses four only had been infected by small-pox, whereas of the forty-one that gave no results five were actually houses which had been infected by small-pox. Thus:—

54 houses	invaded by small-pox ... 9	4 showing sanitary defects.	
		5 showing no sanitary defects.[3]	
	not invaded by small-pox 45	9 showing sanitary defects.	
		36 showing no sanitary defects.[3]	

Rain-water pipes were only found directly connected with the sewer at Nos. ——, ——, and ——, Beatrice-road (the first only being a house infected by small-pox). There are no storm-water sewers in Newfoundpool, I am told. The only conclusion (if any) to be drawn from the above facts is that an insanitary state of the house drainage does not *per se* give rise to small-pox, even when near to a small-pox hospital. The Sanitary Committee, fully alive to the danger of a small-pox hospital being near to other buildings, have endeavoured during the year to find a suitable site away from the town, but as yet unsuccessfully."

Dr. WOODMAN, medical officer of health of Exeter, said Exeter was one of the first boroughs to start an infectious diseases hospital. In an epidemic in 1871 of small-pox a hospital was erected two miles from the town, but within 200 yards of a house and 400 yards of a village through which all cases had to pass. He did not believe that a well-conducted small-pox hospital could be a source of infection, as no cases had broken out either in the village or in the house.

Dr. ALFRED HILL, medical officer of health of Birmingham, agreed that small-pox as a fact prevailed more immediately around small-pox hospitals than in parts further away; but this localisation was not necessarily due to aerial distribution, and before this conclusion could be arrived at it would be necessary to eliminate other causes—the going in and out of officers, tradespeople, and in some cases visitors and articles supplied. His mind was free on the question, and his Birmingham experience did not convince him that the disease was spread principally by aerial convection. This conclusion was justified by certain facts. The workhouse actually adjoined the hospital, and last year only about thirty cases occurred among the inmates, numbering over 2000 persons, although these were constantly changing. The Asylum, situated 500 yards from the hospital, had only two cases of small-pox, and the gaol, fifty yards further away, had only one. Dr. Hill continued: "Now I think it reasonable to conclude that the cases which occurred in these three large institutions may be fully accounted for by the ordinary channels of introduction such as have already been referred to. A careful observation of the cases occurring on the line of the sewer receiving the drainage of the hospital proved that there were no more cases on this line than in other parts of the city. One of the most prolific causes of the occurrence of small-pox around the hospital in Birmingham is the concentration of tramps at the workhouse, which, as already said, adjoins the hospital. The first cases were clearly traced to this source, and the same influence is continually operating."

Dr. MUMBY, Portsmouth, stated that between thirty and forty cases of small-pox had occurred in Portsmouth during the last eight years; in every case distinct personal conveyance of the infection was discovered. All but two were removed to the hospital, and were placed in any pavilion which might be empty. No pavilion was within 40 feet of another, but several were about that distance. These other wards were occupied by scarlet fever and typhoid fever patients. About 150 feet away from the wards occupied by small-pox patients was a block of the union containing about 150 inmates, some of whom were unvaccinated, but in no case did any contract small-pox.

Dr. MARSDEN medical officer of health, Birkenhead, said the temporary infectious hospital in Birkenhead had the wards not more than 10 feet from the street. The outbreaks of small-pox had been dealt with in this hospital during the past two years, but in spite of close proximity of infected wards to the street not a single case of infection from these wards had been traced.

Alderman SUTTON, chairman of the Health Committee at Warrington, desired to add to the remarks of their medical officer of health that they had ample experience in Warrington as to the necessity of small-pox hospitals being isolated at a sufficient distance from inhabited houses, as in the case of the epidemic in Warrington the disease was more prevalent in the immediate neighbourhood of the hospital than in any other part of the town. For want of better accommodation they had to convert a disused ironworks in the midst of a populous locality into a hospital, and much difficulty was experienced by its contiguity to the dwellings. The health committee of Warrington had been doing their utmost during the past twelve months to secure a suitable site. In his opinion, if corporations or other authorities were compelled to provide hospitals so far from dwellings, they would have to do without hospitals altogether.

Surgeon-Lieutenant-Colonel R. L. DUTT, who had had twenty-three years in the Bengal Service, gave his experience of Bengal with regard to the spread of small-pox. Instances of outbreaks in gaols and small outbreaks in towns and

[1] One house in Oban-street became infected by typhoid fever from an outside source.

[2] It is only right to state that, previously to the decline in the number of Newfoundpool cases, several sewer ventilators in the streets there were by order closed and shafts run up some of the houses. This may have had a beneficial effect.

[3] That is, so far as the smoke test showed.

municipalities showed on proper inquiry that small-pox was spread by human agency and infected clothing and articles of use and food; instances of aerial infection were rare. In one instance of epidemic outbreak of the disease in 1864–65 the disease was of such a malignant type and its progress so rapid that aerial infection was possible, but there were no proofs.

Mr. SERGEANT, medical officer of health, Lancashire County Council, said it must be admitted that small-pox occurred in the vicinity of hospitals in which this disease was treated. Whether it was distributed by maladministration or air convection, mishaps did occur, and it was the duty of local authorities to provide against them by the erection of suitable hospitals. Small-pox should not be treated on the same side as other infectious diseases. The experience at Warrington and Chadderton had confirmed the wisdom of the action taken.

Dr. MARK FENTON said that during the small-pox epidemic in Coventry in 1872 a small-pox hospital was built 112 feet from the General Infirmary, containing 20 patients. There was no outbreak in the infirmary. Though the district was densely populated no extension occurred. Last year 30 cases of small-pox were in one pavilion, and this year 20 cases. In the second pavilion, for scarlet fever, 115 feet away, the disease did not extend to 18 scarlet fever patients. He wished to make a protest against the action of the Local Government Board in refusing permission to erect hospitals for small-pox unless isolated from all other hospitals and buildings.

The Hygiene of Vision in Schools.

Mr. ROBERT BRUDENELL CARTER, F.R.C.S., Consulting Ophthalmic Surgeon to St. George's Hospital, in a paper on Some Considerations on the Hygiene of Vision in Schools, said: "I think there can be no doubt on the part of any who are conversant with the questions at issue that the conditions of town life generally, and the conditions of school life in towns especially, are distinctly unfavourable to the development and improvement of the faculty of vision. The reason of this is not far to seek. The visual function may be conveniently regarded under two heads: first, its acuteness, measured by the size of the object which can be clearly seen at a given distance when the eye is directed towards it; and, secondly, its extent, measured by the size of the field around the fixing point. The acuteness differs in different people, not only at the centre of vision, but also in corresponding lateral parts of the field; and these differences seem to be structural in their character—that is, to rest upon a definite anatomical basis. The retina, or nervous expansion upon which the visual image is received, consists of a mosaic formed by the terminations of nerve fibres; and these terminations are of two kinds, called respectively the rods and the cones, the latter being by far the more susceptible of the two to impressions either of form or of colour. The centre of the human retina is composed wholly of cones; and in successive zones around this centre the two elements are differently distributed, the cones becoming constantly less frequent as we proceed from the centre towards the circumference. The general result of this arrangement has been described by saying that what the eye sees is a picture, highly finished in the centre, and regularly diminishing in distinctness towards the boundaries. We see perfectly only the object the image of which falls upon the centre of the retina, although we are conscious of the presence of the lateral objects whose images fall above or below the centre, or to the right or the left of it; but if we wish to examine these objects minutely it is necessary to change the direction of the eyes and to look at the lateral objects in such a manner that the images which they produce fall upon the centre in their turn. The most convenient test of the acuteness of central vision is furnished by test-types of graduated sizes, but the most accurate test, and that which should be used when precision is required, is furnished by a group of circular spots, each one of which is separated from its neighbours by an interval equal to its own diameter. Other things being equal, the acuteness of central vision—that is to say, the smallness of the spots which, at some given distance, can be seen to be separate from one another—will depend upon the size of the retinal cones, in the sense that the smaller these are the more acute will be the vision, and the smaller will be the objects which can be seen. If, at the convenient reading distance, we look steadily at the central letter of a long word we shall find that we cannot really see the commencing and concluding letters, although we may know what they are from familiarity with the object, or may really see them by a movement of the eye so small as to be scarcely recognisable by the consciousness. Some four or five of the central letters will, however, be seen at once with approximately equal distinctness, and the space covered by these letters affords a measure of what may be called the area of central acuteness, which in its turn shows the magnitude of that central portion of the retina which is wholly occupied by cones. The absolute lateral extent of the field of vision varies little, and generally covers, for each eye, about 120° from above downwards, and about 160° from side to side. Within these limits the acuteness varies greatly, some people being able to see much more detail of lateral objects than others, and there can be no reasonable doubt that this faculty is capable of development by cultivation or that it commonly exists in some of the lower animals to a much greater extent than in mankind. In the memoirs of Robert Houdin, the conjuror, it is said that his father trained him to exercise his eyes by taking a rapid glance at a shop front and then writing down a list of the objects displayed in the window, an exercise in which acuteness of lateral vision would be a most valuable endowment. Anyone who has watched birds, such as pigeons or poultry, feeding on the ground must have observed the way in which every now and then an individual will make a sudden dart laterally to secure some tempting morsel, which has evidently been seen with a lateral part of the retina; and some persons will find a small and indistinct object, such as a distant balloon or a star of small magnitude, much more readily than others, clearly because the lateral portions of their fields are more sensitive. In birds the lateral sensitiveness rests upon an anatomical basis, the cones being more evenly distributed over the whole surface than in man, and being furnished with a special apparatus which increases their susceptibility to colour. There is every probability that human retinæ differ among themselves in the same direction, if not to the same degree; and that, even if some persons be not better provided with lateral cones than others, their rods are at least more sensitive. It must be accepted as a general rule that all organs improve under the influence of exercise and suffer from comparative disuse. The Indians of the Pampas, whose vision was continually exercised in endeavours to see distant game or distant enemies, became possessed of an acuteness, both central and lateral, greatly in excess of that commonly appertaining to highly civilised man; and their endowments in this respect would evidently depend upon the greater fineness of the central mosaic of retinal cones, upon the extent of the area over which cones prevailed to the exclusion of rods, and upon the proportion of cones distributed among the rods in the zones around the centre. Every change in either of these directions would be a change in the direction of increased fitness, and would tend to the preservation of the individual and to the perpetuation of an equally favoured race. The town-bred child of civilisation lives under totally different conditions. Instead of constantly attending to the appearance of objects at the very limits of visibility, or instead of being keenly alive to every change of colour or of position in objects placed laterally in his field of view, he never receives any visual images except the large and easy ones which are furnished by near objects, and never regards lateral images in a greater degree than is necessary in order to protect him from running against a half-open door or a lamp-post. Not only his faculty of observation, but also his simple physical power of seeing, of responding by nervous action to the vibrations of light waves, fall much below the standard with which travellers are familiar in many races of men; and the process of retinal involution which this inferiority expresses is calculated to be continuous. Time forbids me to notice the directions in which the eyeball may depart from fitting shape, or the numerous errors of refraction and consequent strain which these departures may entail; and I speak for the present only of what would be called normal eyes. Among them, in the children attending town schools, I am confident that a low standard of visual acuteness will be found to prevail, carrying with it of necessity a comparatively undeveloped power of observation. I am strongly of opinion that the vision of school children should not only be systematically tested, but that it should also be systematically exercised as a matter of competition. We have all seen to how great an extent the other physical disabilities incidental to town life have been diminished by the popularity and prevalance of athletics; and I am convinced that

the eyes of the population, speaking generally, would improve under the stimulus of practice and of reward. I have long advocated that prizes for accurate and extensive seeing should take a recognised place among those given at athletic contests, and there would be no practical difficulty in arranging the conditions of a competition. The first steps in such a direction might well be taken at school; and I am convinced that, if public attention were once called to the natural range and proper capacity of the visual function, its improvement under diligent use would be likely to be at once considerable and progressive. At present not one person out of 500 has the smallest notion what a child ought to be able to see (for example, how large a letter) at 100 feet or at 100 yards; and schoolmasters, in my experience, are especially slow to recognise that what they often call stupidity or obstinacy depends really upon imperfection of sight. I have been crying in the wilderness about this matter for a good many years; but I do not yet despair of witnessing a reform which has long appeared to me to be at once entirely practicable and eminently desirable."

Contagious Skin Diseases in Schools.

Dr. P. S. ABRAHAM and Dr. ALFRED EDDOWES, Physicians to the Western Skin Hospital, contributed a paper on Contagious Diseases of the Skin in Schools &c.: the Question of their Prevention. They observed that the delicate skins of children are particularly liable to be attacked by certain parasitic diseases, and that if these are easily inoculable they are likely to spread among children congregated together. With a perfect system of hygiene such diseases are preventable, and with skilled management their spread can always be arrested. Now that school attendance is compulsory and that the well-cared-for children of poor but respectable families often have to associate at school with those of the dirtiest and most careless classes of the community it is a moral duty that all reasonable precautions should be insisted on by the authorities in order to minimise the risk of infection from the diseased to the healthy. A skin disease also, contracted at school, may be taken home to the brothers and sisters. Cases of ringworm of the scalp are often overlooked, and these constitute a specially fruitful source of infection in schools. They are sometimes believed to be cured or mistaken for scurfy heads, eczema, &c., when really the disease is widely disseminated over the scalp. A systematic periodic examination of the school-children's heads by skilled observers, and strict attention to caps, cloaks, towels, brushes, &c., used by children who are, or have been, affected, and the placing of all cases under expert treatment were recommended. It was considered that under proper treatment, with the heads kept greasy with germicidal ointments and always covered with a closely fitting cap, the children may be allowed to attend school without much risk to the others. With regard to "pediculosis," which is enormously prevalent, especially among the girls of the poorer schools, it was pointed out that the matter is much more serious than at first sight appears. The constant irritation and scratching promote the inoculation of pus-forming and other organisms, giving rise, for example, to contagious impetigo which may spread to others, to abscesses and blood poisoning, and other diseases. Strict cleanliness, the wearing of short hair among little girls, and periodic examination and treatment are the measures recommended. With reference to scabies or "itch," attention was drawn to the fact that it is sometimes mistaken for eczema and allowed to spread when it might easily be cured in the first instance.

NAVAL AND MILITARY HYGIENE.

In this section an interesting paper was read on Friday, July 27th, by Surgeon-Lieutenant-Colonel J. M. BEAMISH, M.D., D.P.H., on Camp Diarrhœa, in which he noticed, in addition to diarrhœa proper, three other affections which, though clinically related to diarrhœa, especially in the camp and field, were etiologically different from it—namely, enteric fever, cholera, and the affection known as "hill diarrhœa." Camp diarrhœa came under observation in a variety of circumstances connected with military service and climate. On home or foreign service the causes had to be looked for among the ordinary influences which predisposed, directly or indirectly, to intestinal derangements. Impure water-supply was a fruitful source of the trouble, the impurity being referable to errors in source or distribution. Errors at the source were traceable to wells which were not at a sufficient distance from risk of pollution by villages or isolated habitations, or which were not sufficiently protected from fouling agencies in operation within the camping-ground itself. Errors in diet, whether of excess or defect in quantity or quality, deserved notice. He alluded to some of the defects, such as insufficiency of fresh vegetables, predisposing to a scorbutic condition of the system and in this way indirectly promoting digestive derangement; exposure on night duty or at other times through inadvertence, causing surface chill with consequent intestinal flux or enteritis; and the insanitary conditions of the camping ground from fouling of old, or inattention to drainage of new, sites. Cooking utensils should be inspected frequently, once a week at least, as a possible cause of diarrhœa. In India copper vessels are in extensive use for culinary purposes and require tinning periodically. Symptoms of copper poisoning often follow a neglect of this precaution. Impure air from overcrowding or other cause, by interfering with oxygenation, must act at least as a predisposing agent, especially if associated with other insanitary conditions. In the public services regulations are definitely laid down regarding cubic space in tents which should not be transgressed. From the analogy now known to exist between the conditions favouring the development of malaria and summer diarrhœa in England there can be little hesitation in assigning malaria as a frequent cause of diarrhœa. The late Dr. Tomkins, medical officer of health of Leicester,[4] has shown that soon after the temperature of the earth, at a depth of one foot, has reached from 59° to 62° F. the causes producing diarrhœa begin to operate. Influenza should not be overlooked as an agent in the causation of diarrhœa, and in this connexion he might refer to a report by Dr. Thresh, medical officer of health for Essex, on an outbreak of diarrhœa at Ford End, near Great Waltham, in the winter of 1892-3, in which it is conclusively shown that an epidemic closely simulating an outbreak of enteric fever was in reality due to influenza.

As regards treatment, on the principle that prevention is better than cure the most reliable means of treatment have been already exhausted, and it was only necessary to allude to special remedies. Astringents of the ordinary kind would suffice; dilute sulphuric acid, with tincture of catechu and tincture of opium in small doses if necessary. In the tropics the early special treatment of diarrhœa is always insisted on, whether this be due to ordinary causes or is the well-known precursor of an epidemic of cholera. Should a scorbutic taint be suspected, fresh vegetables should be given in sufficient quantity, or lime-juice as a substitute. Dysenteric complications should be relieved by ipecacuanha in large or small doses, according to circumstances, large doses being preceded by a dose of tincture of opium, 15 to 20 minims. Dover's powder in all forms of diarrhœa would probably be found beneficial, and castor oil, with tincture of opium and peppermint water, would probably relieve most derangements traceable to error in diet. Quinine would be indicated in the malarial variety in combination with astringents.

ROYAL COLLEGE OF SURGEONS OF ENGLAND.

AN ordinary meeting of the Council was held on the 30th ult., the President, Mr. J. W. Hulke, F.R.S., in the chair.

The Committee of Management presented a report in which several recommendations were made, the most important being one that "a candidate who is referred in chemistry and physics at the First Examination of the Board be required to produce a certificate that he has received instruction in those subjects at a recognised place of study, to the satisfaction of his teachers, during a period of not less than three months subsequently to the date of his reference, and that this regulation take effect from and after Oct. 1st next." The report was approved and adopted.

It was agreed that the annual meeting of Fellows and Members should be held at the College on Thursday, Nov. 1st next, at 3 P.M. The Council then proceeded to the

[4] Quoted by Dr. C. L. Parkes, Hygiene, third edition, pp. 221-2.

consideration of the following resolution adopted at the meeting of Fellows on July 5th: "That the Council be requested to take steps for obtaining the opinion of the Fellows on the mode of election to the office of President." It was moved by Mr. Bryant, and seconded by Sir T. Spencer Wells, "That the Council are not prepared at the present time to consult Fellows or solicit their opinion through other means than the meetings of Fellows that have been lately established." To this an amendment was moved by Mr. Rivington, and seconded by Mr. Willett, "That, in compliance with the request of the meeting of Fellows, the Council take steps for obtaining the opinion of the Fellows on the mode of election to the office of President." This amendment having been lost, the original resolution was carried, and the following addendum was then moved and carried: "That the Council would, however, point out that if any Fellow is anxious to test the opinion of the general body of Fellows as to whether it is desirable to make any change in the present mode of election to the office of President it is open to him to do so by submitting a motion on the question to the meeting of Fellows in January or some subsequent meeting."

A letter was read from Sir George Buchanan resigning his appointment as Examiner in Public Health, and it was moved and carried that the resignation be accepted, with an expression of regret of the Council at his inability to continue in office. The President stated that the vacancy thus occasioned would be filled at the quarterly meeting of the Council in October.

A letter was read from Mr. Thomas Cooke requesting that certificates of attendance at his school may be recognised for the dissections required by Clause 4, Section 1, of the Regulations, relating to candidates for the diploma of Fellow. This was agreed to, but subject to annual revision.

Mr. Pemberton moved: "That it be referred to the Nomination Committee to consider and report to the Council on the advisability and practicability of the meetings of the Nomination Committee being so arranged as to take place, when needed, on the same days as the meetings of the Council, and that Section 15 of the Regulations of the Council, relating to the election of examiners, be altered to give effect as far as possible to the foregoing proposal." Mr. Banks seconded, and the motion was carried.

It was moved by Mr. Rivington, seconded by Mr. Langton, and carried: "That it be referred to the committee appointed to draw up the report to the annual meeting to draw up rules for the conduct of meetings of the Fellows and Members."

It was moved by Mr. Langton, and seconded by Mr. Macnamara: "That a standing committee be appointed to inquire into and report to the Council on the case of any Fellow or Member whose alleged misconduct has brought him under Section 16 of the by-laws of the College." The resolution was carried, and the committee was appointed, consisting of the President, the Vice-Presidents, the past Presidents, Mr. Macnamara, and Mr. Langton.

THE HOLIDAY SEASON: RAILWAY FACILITIES.

THE monotony involved in the course of the daily work of most people is undoubtedly, if unrelieved by a period of complete rest and change of scene, too apt to cause stagnation in all the faculties necessary to a healthy life. Such uniformity of toil is not found in nature; variety is everywhere apparent, enabling the powers, the vitality, and the working capacity of the individual to be refreshed and strengthened. Celsus warned his students that health is best preserved by "avoiding uniformity of life," and even uniformity of climate was condemned by Hippocrates as "undesirable." Nothing depresses circulation, relaxes the nervous system, or causes vitality to dwindle so much as the dull, ordinary, unrelieved routine of existence. It is the severest punishment of the prisoner, the torture of the slave. Nothing so much accelerates bodily decay and reduces mental power to its lowest ebb as a prolonged sameness of occupation. The change, therefore, to which, during the gloomy winter, the cheerless spring, and the sometimes severe summer met with in these islands, so many have hopefully looked forward presents an opportunity for change of environment the therapeutic effects of which are of the highest importance. The yearly holiday fulfils many requirements, and may, indeed, be looked upon as a necessary of life. It affords an opportunity of visiting friends, and of refreshing mind and body by the study of nature in fresh and unaccustomed aspects. Its effects are manifested by the healthy tone, the increased appetite, the heightened spirits, and a happier view of life which makes work a pleasure and energy more fruitful. We propose, therefore, to indicate to our readers the facilities at their disposal for best utilising their too scant period of leisure and recreation.

The London and North-Western Railway Company have arranged cheap excursions to North Wales, including Rhyl, Llandudno, Bangor, Llanberis (for Snowdon). The train departs from Euston at 8.15 A.M. every Saturday until the end of September. Snowdon can be reached for 22*s*. This company have also made arrangements for circular tours in Scotland, including the Caledonian Canal, Inverness, Aberdeen, Perth, and the Highlands:—Tour 1: By rail to Stirling, Callander, Loch Awe, and Oban, thence by Mr. D. MacBrayne's steamer to Ballachulish, Fort William, and the Caledonian Canal to Inverness, returning thence by rail *viâ* Dunkeld (Highland Railway), Dunblane, and Stirling. Tour 2: By rail to Stirling, Callander, Loch Awe, and Oban, thence by steamer to Ballachulish, Fort William, and the Caledonian Canal to Inverness, returning thence by rail *viâ* Elgin, Mulben, Keith, and Aberdeen, thence by Caledonian Railway *viâ* Perth, Dunblane, and Stirling. Tour 3: by rail to Stirling, Callander, Loch Awe, and Oban, thence by steamer to Ballachulish, Fort William, and the Caledonian Canal to Inverness, returning by rail *viâ* Elgin and Great North of Scotland Company's line to Aberdeen. From the latter place the route is by the Caledonian Railway *viâ* Perth, Dunblane, and Stirling. Tickets for this route can be used by either of the following routes between Elgin and Aberdeen, at option: by the Moray Firth Coast line, *viâ* Tillynaught Junction and Grange, or *viâ* Rothes and Craigellachie Junction. (By this route passengers obtain views of the Valley of the Fiddoch and Spey.) Tour 4: By rail to Glasgow or Gourock, thence by steamer to Ardrishaig, Crinan Canal, Oban, Ballachulish, Fort William, and the Caledonian Canal to Inverness, returning by rail *viâ* Dunkeld (Highland Railway), Perth, Dunblane, and Stirling. Tour 5: By rail to Glasgow or Gourock, thence by steamer to Ardrishaig, Crinan Canal, Oban, Ballachulish, Fort William, and the Caledonian Canal to Inverness, returning by rail *viâ* Elgin, Mulben, Keith, and Aberdeen, thence by Caledonian Railway *viâ* Perth, Dunblane, and Stirling. Tour 6: By rail to Glasgow or Gourock, thence by steamer to Ardrishaig, Crinan Canal, Oban, Ballachulish, Fort William, and the Caledonian Canal to Inverness, returning by rail *viâ* Elgin and Great North of Scotland Company's line to Aberdeen. From the latter place the route is by the Caledonian Railway *viâ* Perth, Dunblane, and Stirling. Tickets for this route can be used at option by either of the following routes between Elgin and Aberdeen: By the Moray Firth Coast line, *viâ* Tillynaught Junction and Grange, *viâ* Rothes and Craigellachie Junction, or *viâ* Macduff and Banff Bridge. The respective tours may, at the option of the passenger, be worked in the reverse direction, but passengers must state at the time of booking the route by which they propose to travel, and obtain tickets accordingly. The tickets are available from the date of issue up to and including Dec. 31st, 1894; but the steamer journey of the tour must in all cases be completed before Oct. 1st, 1894.

Fares for the Round.

From		For Tours Nos. 1, 2, 3.		For Tours Nos. 4, 5, 6.	
		1 cl.	3 cl.	1 cl.	3 cl.
		s. d.	s. d.	s. d.	s. d.
LONDON	Euston and Kensington ...	174 8	77 0	173 9	75 0
	Broad-street, Victoria ...	175 4	77 0	174 5	75 0
Birmingham (New-street and Monument-lane)		148 8	75 8	147 9	72 11
Liverpool (Lime-street and Edge-hill) ...		122 4	60 2	118 6	57 5
Manchester (Exchange and Ordsall-lane)		127 4	65 2	125 3	63 5

The Great Northern Railway have an express service in connexion with the steamers for Norway and Sweden, but as the vessels sail according to tide, passengers must not rely upon the steamers waiting their arrival. The times of sailing

should therefore be obtained from Messrs. Thomas Wilson, Son, and Co., Hull. The passage is made to Drontheim every Thursday during the Drontheim passenger season. To Stavanger and Bergen to end of September every Tuesday, and until Aug. 25th every Saturday also. To Christiansand and Christiania every Friday. To Gothenberg (thence to Stockholm by railway or canal) every Saturday after arrival of the mail train from King's Cross, due at Hull at 4.32 A.M. This company issue tickets at a reduced rate up to Oct. 31st to Scotland and the Highlands, the holders of which may break their journey at nearly all stations on the line without restriction as to period. Mr. MacBrayne's steamers run in connexion with the 8.0 and 8.30 P.M. trains from King's Cross. The tickets are available until the end of the year.

The Great Eastern Railway announce that the Hook of Holland Route to the Continent offers exceptional facilities for visiting Holland and Germany. This is an exceedingly easy journey to undertake to those who wish to rest amid totally strange surroundings. There is much that will interest the health seeker in the Netherlands. Passengers leaving London at 8.30 P.M. any evening, Sundays included, and Parkeston Quay, Harwich, at 10.15 P.M. the same day, by one of the Great Eastern Railway Company's twin-screw steamers, are due at Amsterdam, the Hague, and the chief Dutch towns early next morning. For the Antwerp Exhibition cheap weekly return tickets are issued. Passengers leaving Liverpool-street Station at 8.30 P.M. every week day are landed in Antwerp early the next morning close to the Exhibition, and as the last four hours of the voyage are spent in steaming up the River Scheldt they can breakfast comfortably on board. The steamers leave Antwerp at 6.45 P.M. every week day, and table d'hôte is served on board during the passage down the Scheldt. The General Steam Navigation Company's steamers will leave Harwich at 10.30 P.M. on Aug. 4th, and return from Hamburg on Aug. 5th and 7th.

The South-Western Railway provide a summer service of express and fast trains to Exeter, Exmouth, Ilfracombe, Bideford, and Plymouth. They issue tickets which are available for circular tour by rail and coach on every week day. These tours embrace the principal health resorts of North Devon and Cornwall, including Lynton, Ilfracombe, Clovelly, Bude, Boscastle, Tintagel, St. Colomb, Newquay, &c. Saturday excursion trains are run to Bournemouth, Weymouth, Swanage, and Dorchester; also to Portsmouth, Southsea, and the Isle of Wight. Cheap trains leave Waterloo Station for the West of England, North and South Devon, and North Cornwall. There is an express excursion every Friday night, at 10.15 P.M., to Exeter, Okehampton, Tavistock, Devonport, Plymouth, Barnstaple, Bideford, Ilfracombe, &c., for three, eight, ten, fifteen, or seventeen days, as well as every Saturday at 8 A.M. for three, eight, ten, fifteen, or seventeen days to Plymouth, Devonport, Exeter, Exmouth, Tavistock, Liskeard, Launceston, Camelford (for North Cornwall coach), Bude, Barnstaple, Lynton, Ilfracombe, Bideford (for Clovelly), &c. At 3.40 P.M. there is an express excursion for three, eight, ten, fifteen, or seventeen days to Exeter, Tavistock, Devonport, Plymouth, Barnstaple, Ilfracombe, Torrington, &c. The company issue tourist tickets by all trains for two months. The Channel Islands may also be visited, and certain of the ports of Normandy and Brittany.

The Great Western Railway issue ordinary as well as excursion tickets at their principal City and West-end offices, and this arrangement is probably never so much appreciated as during the week preceding the Bank Holiday. Fast excursion trains for the West of England will leave Paddington at 7.55 A.M. and 1.55 P.M. on Saturday, Aug. 4th, reaching Exeter in 5½ hours and Plymouth in 7¾ hours. Excursions will also be run on Saturday to Bath, Bristol, Dorchester, Weymouth, the Channel Islands, Cheltenham, Worcester, Malvern, Hereford, Birmingham, Wolverhampton, Shrewsbury, Barmouth, Aberystwith, Llandudno, Chester, Liverpool, Manchester, and other stations on the Great Western system. Passengers are also booked every Saturday to Guernsey and Jersey *viâ* Weymouth and the short sea passage to the islands by the mail train leaving Paddington at 9.15 P.M. Third-class return tickets available for eight, ten, fifteen, or seventeen days will be issued at a fare of 24*s.* 6*d.* An excursion train will leave Paddington at 8.10 A.M. every Saturday during July, August, and September for Shrewsbury, Llanidloes, Aberystwith, Barmouth, Harlech, Rhyl, Colwyn Bay, Llandudno, Bettws-y-coed, Bangor, Carnarvon, and other stations in North Wales, for three, ten, or seventeen days. On Sunday, Aug. 5th, excursions will be run to Cirencester, Stroud, Gloucester, Cheltenham, &c., and at 12.15 midnight an excursion for one or four days will leave Paddington for Oxford, Leamington, Birmingham, Wolverhampton, &c. On Monday cheap trains will be run to Bath, Bristol, Stroud, Gloucester, Cheltenham, Reading, Pangbourne, Goring, Wallingford, &c. Cheap third-class excursion tickets are issued daily by specified trains from Paddington, Kensington (Addison-road), Hammersmith, and certain stations on the Metropolitan, Metropolitan District, and North London Railways to Staines, Windsor, Taplow, Maidenhead, Henley, and other popular riverside resorts. During the months of July, August, and September, 1894 (wind, weather, and other circumstances permitting), the Great Western Railway Company's steamers will leave Weymouth for Jersey direct at 2.10 A.M. and for Guernsey at 2.30 A.M. (Mondays excepted), in connexion with the 9.15 P.M. train from Paddington, and will return from Jersey to Weymouth direct at 9.30 A.M. daily, and from Guernsey to Weymouth direct at 10.45 A.M. (Sundays excepted). Passengers pass direct between the train and steamers at Weymouth. The service between Jersey and Guernsey will be continued and improved, leaving Jersey for Guernsey about 11 A.M. daily according to tide, and Guernsey for Jersey about 5 P.M. daily (Sundays excepted). The steamers are lighted by electricity.

The Midland Railway are now running first and third class dining carriages between London (St. Pancras) and Glasgow (St. Enoch) in each direction, on both morning and afternoon expresses, leaving London (St. Pancras) at 10.30 A.M. and 2.10 P.M., and Glasgow (St. Enoch) at 10 A.M. and 1.30 P.M. Table d'hôte, tea, and other refreshments are served *en route*. Through carriages run between London (St. Pancras) and Greenock, conveying tourists from London and all parts of the Midland Railway system to the Firth of Clyde and the Western Highlands and Islands of Scotland. A daylight service throughout to the Highlands and watering places on the Firth of Clyde will be given during July and August from London (St. Pancras) at 10.30 A.M., arriving at Greenock at 8.15 P.M., in time to join the Glasgow and South-Western Railway Company's steamer reaching Rothesay at 9 P.M. A new day express service has been established for the North of Ireland, *viâ* Stranraer and Larne, leaving St. Pancras at 10.30 A.M., Bristol 8.30 A.M., Birmingham at 11.10 A.M., Liverpool (Exchange) at 1.40 P.M., Manchester (Victoria) at 1.50 P.M., and reaching Belfast the same evening. A corresponding service leaves Belfast at 9.5 A.M., reaching Carlisle in time for passengers to join the afternoon dining carriage express from Glasgow to London, Manchester, Liverpool, Sheffield, Nottingham, Leicester, Birmingham, &c. The Tottenham and Forest Gate line is now open for passenger traffic. Trains are run at convenient intervals to and from Fenchurch-street (*viâ* East Ham), St. Pancras, King's-cross (Metropolitan), and Moorgate-street (*viâ* South Tottenham and Kentish Town). Express trains also run between St. Pancras and Southend-on-Sea by the new and shorter route. There will be cheap daily excursions to Southend-on-Sea.

The London, Chatham, and Dover Railway announce a novel feature in connexion with a full day's excursion to Calais on August Bank Holiday. Passengers will be conveyed at a return fare of 10*s.* 6*d.* by express train from Victoria or Holborn Stations to Dover, and thence by the company's large mail steamer *Invicta* to Calais. Free conveyance will be provided from Calais Pier to the new Casino, which has recently been completed, and an additional attraction is offered in the shape of a free admission to the sea-baths. For the return journey passengers have the choice of two express services to London, the sea passage being performed in each case by large vessels. Other cheap day trips are announced by this company's line to Margate, Broadstairs, Ramsgate, Canterbury, Dover, Deal, &c.; and for attractions nearer London there will be an ample train service from Victoria, Holborn, and Ludgate-hill to Greenwich, Blackheath, Bromley (for Hayes Common), and to the High Level Station, Crystal Palace. Special cheap Continental trips are advertised for passengers to Paris and Brussels and Antwerp *viâ* Dover and Calais, and the company's large boats *Calais-Douvres* and *Victoria* will cross in the night services on Friday, Saturday, and Monday, returning on Tuesday morning. Cheap bookings are likewise announced to Brussels and Antwerp *viâ* Ostend, and to towns in Holland and to Antwerp *viâ* Queenborough and Flushing. A special trip to Antwerp, enabling passengers to spend one day there to visit the Exhibition, will leave

Victoria and Holborn on Saturday night previous to Bank Holiday, passengers travelling *viâ* Dover and Ostend.

The South-Eastern Railway provide facilities at reduced fares for visiting Boulogne, Calais, Folkestone, Dover, Canterbury, Ramsgate, Margate, Deal, Walmer, Tunbridge Wells, St. Leonards, Hastings, and other attractive places. Circular tours for those desirous of travelling on the Continent have also been arranged by this company. Circular tickets (first and second class) are now issued from Folkestone, enabling the holders to visit Boulogne, to go thence by rail to Calais, returning from Calais to Dover, and thence by rail to Folkestone; or to start from Dover, thence by steamer to Calais, from Calais to Boulogne by rail, returning from Boulogne to Folkestone, and thence by rail to Dover. The journey to be completed within eight days. Fares: First class and saloon, 21*s.*; second class and fore cabin, 15*s.* 6*d.* Ostend may be visited for £1 11*s.*, first class, and £1 6*s.*, second class.

The West Highland Railway is about to be opened, by means of which the jaded Londoner will have ready access to "Mountain, Moor, and Loch"—the best probably of their kind to be found in broad Scotland. The "fortresses of the North," as the mountain glens and the villages built within them have been called in the writings of a later time, were first rendered familiar to the "Southrons" by the works of Sir Walter Scott. Within these fortresses he rambled for many a day, and found in them the stimuli for "a poetic soul," the exercise of which has rendered his name a household word in many tongues. The journeys which he accomplished into the Western Highlands with difficulty have in recent times become comparatively easy. Fine boats ply between Glasgow and Oban, the Queen of the Western Highlands. The Caledonian and Oban line of railway has also for more than a decade conveyed visitors along the banks of the Orchy, around the granite sides of Ben Cruachan, and through the historic pass of Brander, where John of Lorn's men very nearly cut short the career of King Robert the Bruce. But this was by a long and circuitous route through Stirling and Callander which missed the most striking portion of the Southern Highlands. The romantic beauties of the Clyde could only be reached by boat—pleasant enough in fine weather but pregnant with discomfort when it was unpropitious. The West Highland Railway, therefore, comes as a welcome sign of the progress of the age. It passes through districts hitherto unopened—at all events in a manner suited to modern requirements. The scenery of the Clyde is renowned enough. Helensburg, Row, Shandon, Garloch Head, Glen Douglas, and Arrochar are familiar to many in search of health and of a sight of Scottish scenery. The new railway from thence skirts the more unusual banks of Loch Lomond, within sight of the well-known "Cobbler" and Ben Voirlich, on to the station at Ardlui. From this point visitors to Glencoe can travel by railway through Crianlarich, Tyndrum, to the Bridge of Orchy, and thence through Gortan, to the wild and almost impassable Moor of Rannoch, to Inverlair, and Spean Bridge. This, by a short run, will take the traveller to Fort William and Banavie. This cannot but be a great acquisition to the Scottish railways already in existence. "It's a far cry to Loch Aber"; but in these days of luxurious locomotion the traveller can now be carried from London into the very heart of the Western Highlands with almost as little exertion as if he were going from the City to his suburban home.

Public Health and Poor Law.

LOCAL GOVERNMENT DEPARTMENT.

OFFICIAL REPORT ON THE EPIDEMIC OF ENTERIC FEVER IN WORTHING DURING 1893.

[FIRST NOTICE.]

THE official report on the severe epidemic of enteric fever with which the borough of Worthing and the villages of Broadwater and West Tarring were visited last year has been issued by the medical officer of the Local Government Board. It is compiled by Dr. Theodore Thomson, to whom the investigation was entrusted,[1] and it is not only a document of exceptional length, but it is evidently the result of a most painstaking and careful inquiry, and it must be regarded as taking a place amongst the foremost of official reports dealing with the occurrence and etiology of enteric fever. It is well illustrated with explanatory plates and diagrams. The borough of Worthing is estimated as having in 1893 a population of 17,433, and in this population no less than 1259 recorded cases of enteric fever occurred in 1893, all but three taking place between April and November, and the great bulk being concentrated into the months of May to August. Fifty-eight of these attacks occurred in West Worthing; and in addition to these there were 55 in the village of West Tarring, and 41 in the village of Broadwater. In short, the outbreak was almost unexampled in the annals of enteric fever in this country as regards its severity.

Worthing stood high in the rank of healthy towns up to 1893, and only 2 cases of enteric fever were notified in the borough in 1892. The borough includes Worthing town proper and West Worthing, and these two divisions are very different in many important respects. Thus Worthing town is supplied by the Worthing waterworks and has its own system of sewerage, whereas West Worthing has a separate water-supply and sewer system. The village of Broadwater receives in part Worthing water, but has no system of sewers; and West Tarring has West Worthing water, but is connected with the Worthing system of sewers. These arrangements were intricate in so far as the epidemic was concerned, but at the same time this very intricacy helped to unravel the somewhat complicated occurrences that were to take place. With a long record of freedom from epidemic disease, Worthing, to be now differentiated from the borough which includes West Worthing, was startled by the occurrence of 153 attacks of enteric fever in the fortnight ending May 12th, 1893, and of 106 more attacks in the subsequent fortnight; then came an abatement, 83 attacks being recorded during the subsequent four weeks. Up to this time not a case had occurred in West Worthing, which is topographically one place with Worthing; but 5 attacks had occurred in the village of Broadwater, and 1 solitary attack in West Tarring. In dealing with the causes of this sudden epidemic, Dr. Thomson enters into a lengthened description of the sanitary conditions of the places implicated, and he explains in much detail the arrangements by which Worthing, with Broadwater, is supplied with water. The system is one of chalk wells, which, by lapse of time, have become surrounded by houses, with their attendant sewers, drains, &c.; and it was known to Dr. Kelly, the local health officer, that in the preceding month of March it had been resolved to drive a heading from one of the chalk wells in a north-easterly direction, and there were circumstances which led him to fear that one or more of the men engaged in this work had, as in the well-known Caterham case, fouled the heading and thus the water also with specific excreta. It was at the same time admitted that, owing to the scattering of the men and to other circumstances, this was incapable of proof. But another occurrence had also taken place. In making the heading referred to several small fissures had been met with, which brought into the works some 60 gallons of water per minute. But as the work progressed a large fissure was suddenly reached on April 14th; some 2600 gallons of water rushed into the heading per minute, and the men had to run for their lives and forsake their tools. In the fortnight April 15th to 28th enteric fever commenced, 9 cases occurring, and this was immediately followed by the outburst to which we have referred.

The diminution which set in during the latter part of May and the beginning of June gave some support to the original view as to the infection of the well by some man suffering from enteric fever either in an early stage of the disease or in an unrecognised form; but in the fortnight ending July 7th a renewed and much more serious outburst took place. There were 391 attacks in Worthing, and 12 in Broadwater. Next fortnight there were 225 more in Worthing, and 12 more in Broadwater; then came 110 in Worthing, with 4 in Broadwater, and after this a diminution, which was slow, but steadily maintained, set in. With this second outburst the

[1] Report to the Local Government Board on an Epidemic of Enteric Fever in the Borough of Worthing and in the villages of Broadwater and West Tarring. By Dr. Theodore Thomson. Eyre & Spottiswoode, East Harding-street, E.C.; John Menzies & Co., Edinburgh and Glasgow; Hodges, Figgis, & Co., Dublin. Price 4*s.* 6*d.*

West Worthing division of the borough and the village of West Tarring also became affected, and this notwithstanding their very different water and sewerage services; but for the moment we will proceed with the consideration of the epidemic as it affected Worthing town proper and Broadwater, which had both suffered from the beginning.

Suspicion centred strongly on the Worthing town water and on some change which it underwent as the result of, or consequent on, the construction of the new heading. If this water service was the cause of the fever then, as Dr. Theodore Thomson puts it, two results should follow. Of 2890 houses in Worthing all but 31 receive the town water; but of 191 in Broadwater only 65 take that water; therefore relatively to the total inhabitants in each area more persons should be found to be attacked with the fever in Worthing, where but few local wells remain, than in Broadwater where there are many local wells. And secondly, persons in both places, residing in houses where there are local wells, should be found to have suffered less fever than their neighbours who used Worthing town water. And this is precisely what did take place. There was comparative immunity from enteric fever of persons whether in Worthing or in Broadwater who habitually consumed water from local wells, and there was a heavy incidence of the disease on those who used the water delivered by the public service in these places. All this is set out in detail in the report. And further, if the water reaching the new heading was infective, the comparative dribble into it up to April 14th should have produced some small amount of enteric fever, and the great flow of the incoming water at the later date, should have produced much more. Allowing for the incubation period of the disease this again is precisely what did take place. First came a number of scattered initial cases, and then came the epidemic outburst early in May.

A number of experiments then followed with a view of ascertaining whence came the water which got access to the new heading, and which seemed conclusively to be identified with the production of enteric fever; and as the result of these investigations it became clear that the ground in the neighbourhood of the fissure which was met with on April 14th, was freely contaminated with sewage, owing to defective and leaky sewers at a higher level, and that by this means most dangerous material could easily have made its way into the heading and thence into the general water-service. Indeed, it became abundantly clear that opportunities for dangerous pollution of the Worthing water-supply were not lacking. Chemical analyses were made at the time when the new water was utilised, but, "as not infrequently happens, chemistry failed to detect any definite impurity" in it. On the other hand, bacterioscopic examination led to very important results. Dr. Klein's experiments which, with those of Dr. Dupré, are given *in extenso* in an appendix, revealed at an early stage a certain index of fæcal pollution; and further, more minute examination led to the discovery in the water of the enteric fever bacillus in association with an abundance of the bacterium coli communis. "Thus," writes Dr. Thomson, "the chain against the Worthing water is complete. It has been shown that the epidemic of enteric fever in Worthing and Broadwater was intimately related in point of time to the admission to the Worthing service of water from a new source of supply; that thereafter the disease became general throughout the areas supplied by this service; and that within the limits of these areas the incidence of fever was almost wholly on houses supplied with this water. Further, it has been shown that certain apparent exceptions to this rule were, for the most part, persons who had elsewhere consumed the water in question. And now it appears not only that this new source of water-supply was open to dangerous contamination, but also that, by the aid of bacterioscopic examination, demonstration is forthcoming of such contamination having actually occurred."

The further and most interesting phases of this epidemic, and which were concerned with a still greater and wider diffusion of the disease, must stand over for a second notice. In the meantime we gladly call attention to the letter of Dr. Goldsmith in THE LANCET of July 28th, from which it will be seen that, at a heavy cost, Worthing has altogether abandoned the implicated water-service and has constructed a new system of sewers. The borough is evidently determined to regain its place amongst the healthy "health resorts" of England, and it appears that since the cessation of the epidemic in January last there has not been a single case of enteric fever in the place.

VITAL STATISTICS.

HEALTH OF ENGLISH TOWNS.

In thirty-three of the largest English towns 5978 births and 3409 deaths were registered during the week ending July 28th. The annual rate of mortality in these towns, which had been 15·9 and 16·6 per 1000 in the preceding two weeks, further rose to 17·0 last week. In London the rate was 17·2 per 1000, while it averaged 16·9 in the thirty-two provincial towns. The lowest rates in these towns were 9·5 in Gateshead, 11·3 in Plymouth, 11·9 in Portsmouth, 12·3 in Brighton, and 13·2 in Leicester; the highest rates were 19·9 in Blackburn, 20·3 in Salford, 21·5 in Sunderland, 22·1 in Wolverhampton, and 24·4 Liverpool. The 3409 deaths included 622 which were referred to the principal zymotic diseases, against 497 and 591 in the preceding two weeks; of these, 267 resulted from diarrhœa, 115 from measles, 80 from whooping-cough, 73 from diphtheria, 53 from scarlet fever, 27 from "fever" (principally enteric), and 7 from small-pox. No fatal case of any of these diseases was recorded last week in Halifax or in Gateshead; in the other towns they caused the lowest death-rates in Cardiff, Plymouth, and Derby, and the highest rates in West Ham, Leicester, Liverpool, Salford, and Sunderland. The greatest mortality from measles occurred in Salford, Swansea, Sunderland, and West Ham; from scarlet fever in Burnley; from whooping-cough in Norwich, Swansea, and Sunderland; from "fever" in Birkenhead; and from diarrhœa in Bolton, Birkenhead, Salford, Liverpool, and Leicester. The 73 deaths from diphtheria included 52 in London, 3 in Liverpool, and 3 in Huddersfield. Four fatal cases of small-pox were registered in Birmingham, and 1 each in London, Plymouth, and Manchester, but not one in any other of the thirty-three large towns. There were 207 cases of small-pox under treatment in the Metropolitan Asylum Hospitals and in the Highgate Small-pox Hospital on Saturday last, July 28th, against 109, 97, and 79 at the end of the preceding three weeks; 152 new cases were admitted during the week, against 28, 17, and 10 in the preceding three weeks. The number of scarlet fever patients in the Metropolitan Asylum Hospitals and in the London Fever Hospital at the end of the week was 2193, against 2099, 2143, and 2198 at the end of the preceding three weeks; 241 new cases were admitted during the week, against 277 and 264 in the preceding two weeks. The deaths referred to diseases of the respiratory organs in London, which had declined from 162 to 124 in the preceding three weeks, rose again last week to 160, but were 17 below the average. The causes of 54, or 1·6 per cent., of the deaths in the thirty-three towns were not certified, either by a registered medical practitioner or by a coroner. All the causes of death were duly certified in Bristol, Leicester, Nottingham, Bradford, Newcastle-on-Tyne, and in thirteen other smaller towns; the largest proportions of uncertified deaths were registered in West Ham, Birmingham, Liverpool, and Salford.

HEALTH OF SCOTCH TOWNS.

The annual rate of mortality in the eight Scotch towns, which had been 15·4 and 16·9 per 1000 in the preceding two weeks, declined again to 15·1 during the week ending July 28th, and was 1·9 per 1000 below the mean rate during the same period in the thirty-three large English towns. The rates in the eight Scotch towns ranged from 12·0 in Perth and 12·6 in Paisley to 18·7 in Dundee and 23·3 in Greenock. The 430 deaths in these towns included 24 which were referred to diarrhœa, 8 to measles, 6 to diphtheria, 3 to scarlet fever, 3 to whooping-cough, 3 to "fever," and 1 to small-pox. In all, 48 deaths resulted from these principal zymotic diseases, against 56 and 49 in the preceding two weeks. These 48 deaths were equal to an annual rate of 1·7 per 1000, which was 1·4 below the mean rate last week from the same diseases in the thirty-three large English towns. The fatal cases of diarrhœa, which had been 22 and 19 in the preceding two weeks, rose again to 24 last week, of which 13 occurred in Glasgow. The deaths referred to measles, which had been 13 and 11 in the preceding two weeks, further declined to 8 last week, and included 4 in Glasgow and 4 in Dundee. The fatal cases of diphtheria, which had been 5 and 8 in the preceding two weeks, declined to 6 last week, of which 2 occurred in Dundee. The 3 deaths from scarlet fever exceeded by 1 the number in the preceding week. The 3 fatal cases of whooping-cough corresponded

with the number in the preceding week, and included 2 in Glasgow. The deaths referred to different forms of "fever," which had declined from 6 to 2 in the preceding three weeks, were 3 last week. The deaths from diseases of the respiratory organs in these towns, which had been 61 and 75 in the preceding two weeks, declined again to 49 last week, and were 29 below the number in the corresponding period of last year. The causes of 36, or more than 8 per cent., of the deaths in these eight towns last week were not certified.

HEALTH OF DUBLIN.

The death-rate in Dublin, which had been 18·0 and 17·4 per 1000 in the preceding two weeks, rose again to 22·2 during the week ending July 28th. During the past four weeks of the current quarter the death-rate in the city has averaged 18·8 per 1000, against 16·5 in London and 14·7 in Edinburgh. The 149 deaths registered in Dublin during the week under notice showed an increase of 32 upon the number in the previous week, and included 10 which were referred to the principal zymotic diseases, against numbers increasing from 5 to 14 in the preceding three weeks; of these, 3 resulted from whooping-cough, 3 from diarrhœa, 2 from scarlet fever, 2 from "fever," and not one either from small-pox, measles, or diphtheria. These 10 deaths were equal to an annual rate of 1·5 per 1000, the zymotic death-rate during the same period being 3·6 in London and 1·3 in Edinburgh. The fatal cases of whooping-cough, which had been 3 and 1 in the preceding three weeks, rose again to 3 last week. The 3 deaths from diarrhœa showed a decline of 3 from the number in the preceding week. The deaths referred to different forms of "fever," which had been 2 and 4 in the preceding two weeks, declined again to 2 last week. The 2 fatal cases of measles exceeded the number recorded in any recent week. The 149 deaths in Dublin last week included 41 of infants under one year of age, and 30 of persons aged upwards of sixty years; the deaths both of infants and of elderly persons showed an increase upon the numbers in the preceding week. Five inquest cases and 2 deaths from violence were registered; and 57, or more than a third, of the deaths occurred in public institutions. The causes of 15, or more than 10 per cent., of the deaths in the city last week were not certified.

THE SERVICES.

MOVEMENTS OF THE ARMY MEDICAL STAFF.

SURGEON-MAJOR-GENERAL C. H. GIRAUD, having reported his arrival at Netley on July 28th, took over his appointment as Principal Medical Officer of the Royal Victoria Hospital from Brigade-Surgeon-Lieutenant-Colonel Evatt, M.D., who reverts to his post as Secretary and Registrar. Leave of absence from Netley on private affairs has been granted to Surgeon-Captain H. R. Whitehead from Aug. 4th to Sept. 2nd. Surgeon-Captain W. W. Webb leaves Netley on leave. Surgeon-Colonel T. Walsh, Principal Medical Officer, Madras, obtains promotion to the rank of Surgeon-Major-General.

INDIA AND THE INDIAN MEDICAL SERVICES.

Surgeon-Major G. S. A. Ranking, Secretary to the Board of Examiners, Calcutta, acts as Officer in Charge of the Records of the Government of India (of that portion of the office which is in Calcutta) until further orders. Surgeon-Captain R. Robertson is appointed to act as Assistant Physician, General Hospital, during the absence of Surgeon-Captain A. E. Grant on leave. Assistant-Surgeon M. Ailsworth, M.B., is appointed to act as District Surgeon, Coimbatore, during the absence of Surgeon-Lieutenant-Colonel J. F. Fitzpatrick, M.D., on leave. Surgeon-Major W. P. Carson, I.M.S., Acting Port Surgeon, Aden, is granted privilege leave for three months, and Surgeon-Major J. W. T. Anderson, F.R.C.S. (Edinburgh), I.M.S., is appointed to act as Port Surgeon during his absence. Surgeon-Captain L. F. Childe, M.B., has been allowed by Her Majesty's Secretary of State for India to return to duty within the period of his leave. 1st Punjab Volunteer Rifle Corps: Surgeon-Captain Francis Frederic Perry (Surgeon-Major, I.M.S.) to be Surgeon-Major.

ARMY MEDICAL STAFF.

Surgeon-Major-General Philip Broke Smith, M.D., is placed upon retired pay.

NAVAL MEDICAL SERVICES.

The following appointments are announced:—Surgeons: Norman J. Smith, to the *Impregnable* (lent), and Montague H. Knapp, to the *Lion*.

YEOMANRY CAVALRY.

Staffordshire (Queen's Own Royal Regiment): Surgeon-Lieutenant E. W. Welchman to be Surgeon-Captain.

VOLUNTEER CORPS.

Artillery: 1st Glamorganshire: Daniel Robert Bowen, Gent., to be Surgeon-Lieutenant.—1st East Riding of Yorkshire (Western Division, Royal Artillery): Surgeon-Captain W. Draper to be Surgeon-Major; Surgeon-Lieutenant T. McC. Foley to be Surgeon-Captain.—2nd West Riding of Yorkshire (Western Division, Royal Artillery): John Crossley Wright, M.B., to be Surgeon-Lieutenant.—*Rifle:* 7th Volunteer Battalion, the Royal Scots (Lothian Regiment): Surgeon-Lieutenant William Kyd Aitken is appointed Lieutenant.—3rd Volunteer Battalion, the Royal Fusiliers (City of London Regiment): Surgeon-Lieutenant W. C. Steele, M.D., resigns his commission.—6th (Fifeshire) Volunteer Battalion, the Black Watch (Royal Highlanders): Surgeon-Lieutenant H. D. Hay resigns his commission; Surgeon-Lieutenant D. H. Kyle, M.B., to be Surgeon-Captain.—3rd (Renfrewshire) Volunteer Battalion, Princess Louise's (Argyll and Sutherland Highlanders): Surgeon-Lieutenant J. Strang, M.B., to be Surgeon-Captain.

VOLUNTEER MEDICAL STAFF CORPS.

The London Companies: James Harper, M.D., to be Surgeon-Lieutenant.

VOLUNTEER OFFICERS' DECORATION.

Her Majesty has conferred this decoration upon Surgeon-Major (ranking as Lieutenant-Colonel) James Finegan, retired, of the 5th (Irish) Volunteer Battalion, the King's (Liverpool Regiment) (North-Western District, Rifle).

THE AMBULANCE CHALLENGE SHIELD.

The Ambulance Shield of the Volunteer Medical Association was competed for on Saturday last at Wellington Barracks, London, when squads representing twenty-three Volunteer regiments entered. The arrangements, which were in the hands of Surgeon-Captain Dundas Grant and Surgeon-Lieutenant A. Eddoes, of the 24th Middlesex R.V., honorary secretaries, were excellent. Each squad was examined in four subjects—drill, first aid, anatomy and physiology, and bandaging. The proceedings lasted for over three hours, and the ordeal through which each team passed was a severe one. The winning squad was composed of members of the 12th Middlesex (Civil Service) R.V., and had recently undergone a course of instruction from the Volunteer Ambulance School, since which they have been instructed by Surgeon-Lieutenant H. Dickson, M.B., C.S.R.V. The shield and badges were presented to them, and badges to the second and third teams by Mrs. J. E. Squire, wife of Surgeon-Major Squire. The examiners were—Drill: Surgeon-Major Sir James Clark, Bart., A.M.S.; Surgeon-Captain J. E. Squire, V.M.S.C. Anatomy and Physiology: Surgeon-Major H. F. Stokes, London Rifle Brigade; Surgeon-Captain Julian Hayes, Adjutant, V.M.S.C. First Aid: Surgeon-Major W. Culver James, Hon. Art. Co.; Surgeon-Captain R. R. Sleman, "Artists" R.V. Bandaging: Surgeon-Major W. Collinridge, Militia Medical Staff Corps; Surgeon-Captain V. Mathews, V.M.S.C. In returning thanks for the examiners, Surgeon-Major Sir James Clark said that the men had done very well indeed; the marks obtained averaged 58 per cent. of the maximum, and showed that great care had been taken in instructing them; he hoped that the time would soon come when more than two per company would be taught this excellent work, and that every man in the ranks would in these days of machine guns be able to assist his comrade if wounded. The following is a list of the competing regiments in their order of merit. 12th Middlesex (Civil Service) R.V.; 1st Bucks R.V.; 2nd V.B. Liverpool Regt.; 3rd V.B. Hampshire Regt.; 1st Notts (Robin Hood) R.V. 2nd V.B. Royal Fusiliers; 22nd Middlesex R.V.; 24th Middlesex Post Office R.V.; 2nd V.B. East Surrey Regt.; 1st Sussex Vol., Art.; 1st Middlesex Vol., R.E.; 1st Wiltshire R.V.; 1st V.B., Northampton Regt.; 1st V.B. Royal Warwick Regt.; 2nd V.B. Hampshire Regt.; 2nd V.B. S. Staffordshire Regt.; 5th West Middlesex R.V.; 1st V.B. Somerset L.I.; 4th Middlesex R.V.; 1st V.B. Suffolk Regt.; 1st V.B. Worcester Regt.; 2nd V.B. Middlesex Regt.; 1st V.B. Leicester Regt.

THE CONTAGIOUS DISEASES ACTS AND INDIA.

Our contemporary the *Times of India* of the 13th ult., under the head of "Fanaticism and the Contagious Diseases Acts" and *apropos* of the late discussion on the subject in the House of Commons, and especially with reference to the alarming increase of this class of disease in the European army in India, calls attention to the evil consequences that have followed the abrogation of the Contagious Diseases Act in that country under the orders of Parliament in 1888. The evil was, our contemporary says, immediate, and time only emphasises its disastrous consequences as far as the efficiency of of the troops is concerned. But, as it very pertinently and forcibly points out, whatever benefit the army derived from the establishment of lock hospitals, unfortunate women derived at least as much. This is a consideration which we have always insisted upon. The fanatical tactics of a party in this country has, as far as this unhappy class are concerned, closed the door on all their chances of physical and moral improvement while it has removed any repressing or deterrent influence which this sort of legislation may have exercised on others exposed to similar temptations in this direction.

LAHORE LUNATIC ASYLUM.

We gather from the Anglo-Indian papers that attention has been again directed to the defective construction and insanitary state of this institution by the report of the Inspector-General of Civil Hospitals. The barracks are very badly ventilated, and the effect of this has been manifested by the great liability to, and increased mortality from, pneumonia and pulmonary disease among its occupants. There are other defects in the construction of the asylum besides the want of provision for fresh air calling for remedy, but the latter is the more pressing one. So long as the occupants of the institution can sleep in the open air no harm ensues. It is in the cold weather that foulness of the air is noticed and disease results.

ARMY MEDICAL DEPARTMENT.

The attention of intending candidates is called to the fact that the next competitive examination for commissions in Her Majesty's Army Medical Staff takes place on the 10th inst. and following days. There are twelve vacancies. Thirteen officers will be admitted to the Indian Medical Service at the next examination—viz., nine for Bengal, two for Madras, and two for Bombay.

HEMP DRUGS COMMISSION.

The Hemp Drugs Commission appointed by the Indian Government has probably drawn up, signed, and presented its report by now. It is confidently expected that the recommendations will be the control, not the prohibition, of hemp drugs.

We are informed that Brigade-Surgeon-Lieutenant-Colonel Stevenson, Professor of Military Surgery at Netley, has lately operated on a case of abdominal aneurysm by laparotomy and the introduction of iron-wire into the sac. We hope to publish a full account of the case quite shortly.

Correspondence.

"Audi alteram partem."

THE PHENYL-HYDRAZINE TEST FOR SUGAR.

To the Editors of THE LANCET.

SIRS,—I do not wish to join in the discussion as to the presence or absence of an infinitesimal quantity of sugar in normal urine, but I am desirous of pointing out the great clinical value of the phenyl-hydrazine test and its extreme delicacy. Last week I examined a specimen of urine which reduced Pavy's solution and gave a deep red colouration with picric acid and potash, so that I was led to think that a small quantity of sugar might be present. On testing with phenyl-hydrazine, however, I obtained no reaction, showing that the reactions with copper and picric acid were due to uric acid and kreatinine, and not to sugar. As a confirmatory test I added *one* drop of a saccharine urine (about eight grains to the ounce) to half a test-tube of the former urine, and the phenyl-hydrazine test at once showed the presence of sugar. The practical result was that, instead of continuing a nitrogenous (anti-diabetic) diet which had been ordered, I prescribed the lighter meats, fish, milk puddings, fruit, and vegetables, with great advantage to the patient.

I am, Sirs, yours faithfully,

Wimpole-street, Aug. 1st, 1894. JOHN CURNOW.

"THE NEW MEDICAL DEFENCE ASSOCIATION, LIMITED."

To the Editors of THE LANCET.

SIRS,—I notice that in the paragraph devoted to the above association in THE LANCET of July 28th you give as your opinion that "for the defence which it (the profession) does need we think the existing societies ample." This, Sirs, is a point of which the profession would like to have proof, and that proof should consist of a statement of accounts, to be published in your columns, showing how much money the Medical Defence Union started the year with, how much they wasted in their unsuccessful fight with Mr. Bloxam (one of their own members), what their present liabilities are, and how much cash they now have in hand to carry on the objects of legitimate medical defence. In reference to your prognosis that the profession is not likely to support the new association I am glad to be able to state that we have already met with a much larger measure of success than the most sanguine of us anticipated, and that even at this early hour we have more money than either of the old societies, or, in fact, the two of them together.

I am, Sirs, your obedient servant,

J. HENRY CHALDECOTT, Hon. Sec.

Old Kent-road, S.E., July 30th, 1894.

*** Our notice of the New Medical Defence Association, Limited, has brought us several other communications, for which we have been unable to find space.—ED. L.

"THE USE OF CINNAMON IN THE TREATMENT OF CANCER."

To the Editors of THE LANCET.

SIRS,—In your impression of July 21st a letter appears from Dr. Carne Ross on this subject. As one of those mentioned in his letter, I should like to add something to what he has already said.

Dr. Ross is, and quite rightly so, extremely anxious to say no more than can be amply borne out by the facts at his command; and, therefore, in this, which I hope is only the first of his communications on this subject, he lays main stress upon the improvement in these cases so far as pain only is concerned. The case of my own mentioned by him was only one out of several in which I had the benefit of his assistance, and in all of them the same freedom from pain very soon after the commencement of treatment was noted. In that particular case an operation had been performed by our late colleague, Professor Hare, who removed with his usual care all suspicious parts. In spite of this the carcinoma returned rapidly, and the patient delayed seeking assistance until any further operation was impracticable. Nothing but continued morphia relieved the intense pain from which he suffered; but within twenty-four hours after Dr. Carne Ross's treatment was adopted the pain ceased and morphia was not again required. In another case of recurrence of carcinoma after vaginal hysterectomy the same treatment was carried out by Dr. Ross with the same good result. There were other cases, but as the improvement noted in them was more marked along other lines than that of mere relief from pain they will be more fitly noted in connexion with his further communications; but if nothing more could be predicated such relief must be of infinite importance to the sufferers, and that such is the case I am delighted to be able to bear witness.

I am, Sirs, yours truly,

E. STANMORE BISHOP, F.R.C.S. Eng.,
Hon. Surgeon, Ancoats Hospital.

Oxford-road, Manchester, July 28th, 1894.

SPECIAL HOSPITALS AND PRIVATE INTERESTS.

To the Editors of THE LANCET.

SIRS,—I am anxious to put before you certain facts which appear to me worthy of a little attention. A patient of mine,

with my approval, attended as an out-patient at a special hospital wishing to have a little operation performed, his circumstances being such that he could not have it done at home, he, however, being willing to pay for his bed inside. In point of fact he is only a clerk, and lives in lodgings. On his first visit the house surgeon intimated that he should put 5*s.* in the box, and this was done.

The following week the conversation was in substance as follows :—

H. S.: Well, it's no use your coming here as an out-patient, an operation must be done, and you must be inside.

P.: That's what I wish, and came here for.

H. S.: Oh, you can't come in here for six months, at least, as there will be no bed till then. I'll tell you what I'll do. If you'll take rooms near I will get one of the surgeons to do the operation for, say 20 guineas (in the ordinary way it would cost you 60 or 80 guineas), and I will do the necessary after-treatment at the usual fee of a guinea a visit!

In token whereof he gave my patient his visiting card to see him next week.

My patient has not repeated his visit there, but decided to try the —— Hospital. In this case I get a letter from the surgeon he there sees suggesting that "the patient would do better at home if we could work together."

I know, Sirs, that hospitals are often abused by patients well able to pay, but I did not know that they were used to squeeze fees for the honorary staff. I should like from you an expression of opinion, and meantime

I remain, yours faithfully,

July 24th, 1894. M.D.

A DANGER OF THE ELASTIC TOURNIQUET.

To the Editors of THE LANCET.

SIRS,—On June 20th last I was operated upon for the removal of a neuroma situated over the anterior aspect of the head of the metacarpal bone of the left ring finger beneath the cicatrix of an amputation of the same finger, which had to be taken off for the sequelæ of blood poisoning some years back. The operation was followed by immediate relief, and would have been perfectly successful had not intense pain supervened on the third day, due, as it afterwards appeared, to the pressure of the dressings and bandages on two other similar tumours, attached to the extremities of nerves divided at the original amputation, and the existence of which had till then been entirely unsuspected even by myself. On July 4th, fourteen days after the first operation, the parts were again opened up, and the two neuromata, of about the size of barleycorns, carefully removed. Chloroform and the elastic ligature for bloodless operation were used on both occasions, and on the first without any *contretemps;* but after the second operation, which took about ten or fifteen minutes to complete, and on the removal of the elastic ligature, the hand and forearm were found to be paralysed, a condition which still remains. The tourniquet, a piece of elastic tubing, was applied on each occasion, about three inches above the elbow-joint, and, I am informed, without any unnecessary force. No bandage was first placed round the part, but the sleeve of my flannel sleeping-shirt was utilised to protect the soft parts from chafe. The surgeon who applied the tourniquet had done so scores of times previously and without any unpleasant consequences. My condition on this the sixteenth day since the paralysis was occasioned is as follows. I can, but without any force, flex the hand on the forearm, and can also with considerable difficulty oppose the thumb to the tips of the index and middle fingers. I can pronate and supinate the hand. There is a trace of power of extension in the index and middle fingers, the tips of which move through an arc of about one-fourth of an inch from their usually partially flexed position. Extension of thumb, little finger, and hand is entirely absent and "drop wrist" is complete. The most painful part of the condition, besides the pain from the recently divided nerves and the tension in the sheaths of the flexor tendons of the hand, is the peculiar sensation in the parts supplied by the posterior branches of the musculo-spiral nerve about the elbow and the posterior interosseous lower down. When these are rubbed against any resisting surface it feels as though nearly dead flesh were being grated against a stick covered with sandpaper (my ulna)—anything but a pleasant state of things. There is, of course, marked shrinking of the muscles due to desuetude and the loss of nervous supply. The muscles can all be made to act under the influence of the faradaic electric current.

Though, of course, cases of crutch palsy, Russian drosky drivers, and other temporary cramps, and loss of power from pressure on nerves, are not uncommon, this is the first time I have known such a result as I am experiencing to follow the use of the elastic tourniquet, and I would, therefore, be much obliged if any of your numerous readers who may have met such in the course of their practice would give the particulars, especially as regards the duration and result of their cases—the latter, to me, naturally of overwhelming importance. I may add that prior to these operations I was in a highly neurotic condition, had been losing flesh and strength, and suffering for a long time from the pain and worry caused by the neuromata in my hand; and in all probability this condition may have made my nerves the less capable of withstanding two doses of compression at the same place and with so short an interval of time.

I am, Sirs, yours truly,

July 24th, 1894. A MEDICAL OFFICER.

MANCHESTER.

(FROM OUR OWN CORRESPONDENT.)

The David Lewis Recreation Ground.

A VALUABLE addition has just been made to the open spaces of Manchester. The "Lewis trustees" have purchased for £8000, and presented to the corporation, nineteen acres of land at Barnes Green, a northern suburb. This land adjoins on one side an open space of 147 acres previously acquired by the corporation. One part of this latter is distinguished by the euphonious and thoroughly Lancashire name of "Boggart Ho' Clough." The first word is a northern synonym for ghost or apparition. "Ho'" is, of course, "hole" cut short, while "clough" is used to signify a dell or ravine. The only conditions made by the trustees are that there shall be a caretaker's house, and that the land shall be "fenced, levelled, and made suitable for cricket, football, and recreation purposes generally." It is within easy reach of a dense working-class population, and will give opportunities to the boys and young men to take part in out-door exercise and games, the facilities for, so doing having hitherto been but scanty for those who could not afford to join the more or less expensive clubs. The taste for these games has happily not died away, for though the young men and big lads are too fond of the streets and of horse-play, apt to develop into the "scuttling" of the corner roughs, the budding Graces and Hornbys among the smaller boys appropriate every patch of waste ground they can for cricket or football. It may be hoped that with better opportunities many of the older boys will be weaned from the streets and spend their leisure time in healthy and humanising games. The physique of the factory population is very poor. As a rule the young men, and girls likewise, are stunted, weedy, and anæmic, and it will be a boon to those who follow the present generation to have at least the chance of obtaining better physical development.

Shop Hours Act.

A report just submitted to the Sanitary Committee shows that useful work—apt to be overlooked—is done by the Corporation in the prevention of disease. From Sept. 18th, 1893, to June 20th, 1894, the male inspectors paid 4254 visits to shops, 4876 to workshops, and 649 to bakehouses; while the female inspectors visited 5894 shops, 1046 workshops, and 924 houses where outworkers were employed. Infringements of the Act were reported in 125 cases, in all of which it has since been complied with. In the workshops 757 sanitary defects were reported, the majority of which have been already done away with. The 649 visits to bakehouses revealed 171 cases in which defective sanitary arrangements existed. Of these 152 have been remedied, and of the 19 left 9 bakehouses have been closed. In 2 cases notices have been served, 4 have been referred to the medical officer of health for report, and in 4 the occupiers have promised to make good the defects reported. Bread-making is an occupation in which the utmost care and cleanliness ought obviously to be practised, and in the majority of cases there is ground for believing that this is felt to be a duty; but the facts now and then coming to light show how true the old adage—

"ignorance is bliss"—may still be for those who eat bought bread.

Pauperism.

The report of the Relief Department in the township of Manchester for the year ending March 24th, 1894, contains many matters of interest, of which a few only can be touched on here. There were 18,741 applications for relief, a decrease of 486 as compared with the preceding year. "Want of work" and "sickness" caused rather more than two-thirds of them, while 4288 were due to "old age and infirmity," the remainder being classed as "miscellaneous." Of the total number over sixty-five years old, 57 per cent. came from "common lodging-houses" and the vagrant wards, or were found homeless in the streets; 36 per cent. came from so-called "private apartments" in the slums of the town and are described as "most miserable and dirty." One of the tables shows a steady and rapid increase in the number of "tramps" during the last five years. In 1890 they numbered 14,182, in 1891 18,111, and so on year by year—23,439, 26,551—while last year there were 36,808. Of this large number only 739 were transferred to the workhouse in consequence of sickness or other cause in the year 1893–94. How many suffered from zymotic disease is not stated The bearing of pauperism on longevity is shown by some figures taken from Dr. Tatham's most valuable "Manchester Life Table," from which it appears that "the average expectation of life of persons born in the township of Manchester is nine years less than in the case of those born in other townships of the city, and twelve years less than of those born elsewhere in England and Wales." For this population of nearly 150,000 this is equivalent to a tax, as Dr. Tatham says, of "fully 30 per cent. of the lifetime of the community." One of the plague spots of Manchester is "Angel Meadow," with an area of 33 acres, a population of 6816, or 206 to the acre, and a death-rate of 50·9. There are 88 common lodging-houses, with over 2500 beds. Within their walls "are to be found the flotsam and jetsam, the wreckage, the dregs, not only of the city's humanity, but of many other towns and places. Here are herded together the outcast, broken-down in health and fortune, the mendicant, the criminal and licentious, the casual wayfarer, and representatives from nearly all the sections of the nomad classes who habitually live upon the borderland of beggardom." The ratio of pauperism is 394 per 1000, as compared with 54·24 per 1000 for England and Wales. The 2500 common lodging house beds produced 2492 paupers—practically one pauper per bed—and the cost of maintenance during the year amounted to £2 14*s.* for each bed. How is this state of things to be remedied? An inquest was held on the 23rd inst. on the body of a poor woman aged sixty-five, who had lived alone in a single room in a back street of this district, kept alive by the charity of her neighbours. Though often urged, she refused to go to the workhouse. Not having been seen for some days, her room was forced open, and she was found lying on the floor alive, but exhausted for want of food. The place was "indescribably filthy." She was taken to the workhouse and carefully tended, but gradually sank. She had chosen starvation rather than the "house." Privations the most miserable, surroundings the filthiest and most degrading, coupled with what we must suppose she called liberty, were preferred by that poor helpless creature to the comfort and kindness she would have had at the "Bastille," as the workhouse is called by a section of the people. How can what may be called the collective beneficence of the nation be made less repulsive and yet not too attractive?

July 31st.

NORTHERN COUNTIES NOTES.

(FROM OUR OWN CORRESPONDENT.)

The Ambulance Review.

THE ambulance review at Newcastle has been held, and passed off very well. Owing to heavy rain falling at the time, the attendance of the public was small. The inspecting officer was Colonel E. T. Thackeray, C.B., V.C., who was accompanied by the mayor, Surgeon-Major Hutton, and other officials. The inspecting officer having passed along the ranks, the whole of the companies formed fours and marched past. They then gave a demonstration of rendering of first aid in bandaging, and with stretcher exercise, colliery underground aid to the injured, including help after explosions. The public do not seem to take much interest in ambulance work, I suppose because it is devoid of amusement but the boys of the *Wellesley* training ship enlivened the proceedings by their evolutions and the music of their fine band.

Darlington Technical College.

The county council of Durham at its last meeting voted a grant of £2250 towards the cost of building the proposed technical college in Northgate, Darlington.

Tyne Port Sanitary Authority.

The officers of the above authority are taking active precautions against the importation of infectious diseases. A Norwegian steamer from St. Petersburg, on its arrival in Shields Harbour, was boarded by Dr. Armstrong, the medical officer, who found the crew all well. The carpenter of a French vessel from Antwerp was found to be suffering from small-pox, and was taken to the floating hospital at Jarrow Slake, where there are other cases. The ship has been thoroughly disinfected, and was released from quarantine. Dr. Armstrong also examined the other members of the crew, who were all well.

Bequests to Newcastle Charities.

It is stated that the late Mr. Benjamin Waters of St. Mary's-place, Newcastle, has left a fourth of the residue of his estate, estimated to yield £10,000, to the Newcastle Royal Infirmary.—The late Mr. Joseph Blacklock, solicitor, of this city, has left about £600 for distribution amongst our medical and other local charities. The Royal Infirmary, Dispensary, and the Convalescent Home at Whitley benefit under this bequest.

The Health of Sunderland.

According to the annual report of the medical officer of health for Sunderland (Mr. J. C. Wood), there were 1203 marriages contracted in the borough last year, the rate being 17·8 per 1000 of the population per annum. The average birth-rate was 34·46. The deaths numbered 3023, or 294 in excess of the previous year; 366 people died of typhoid fever and diarrhœa; 904 children died under twelve months old.

Newcastle-on-Tyne, Aug. 1st.

SCOTLAND.

(FROM OUR OWN CORRESPONDENTS.)

The Leith Sanitary Authorities.

THE sanitary authorities in Leith appealed some weeks ago to the Board of Supervision for permission to remove their sanitary inspector, and, following upon that, the board sent its inspector to investigate the matter. The result has been that a compromise has been effected. The sanitary inspector has tendered his resignation for Oct. 1st next, and it is proposed to give a sum of £250 as compensation for the loss of his office. The matter has not been finally settled, for, by the extraordinary action of some of the members of the town council, there was not a quorum present when the division bell was rung. The objecting members had left the council chamber, but were still in the house. It seems very absurd that business affecting the public health should be brought to a standstill by such absurd action. The matter has again been sent to the Board of Supervision.

Proposed Amalgamation of Edinburgh, Leith, and Portobello.

A memorandum bearing upon this subject has been prepared and submitted to a subcommittee of the Edinburgh Town Council. It deals with the various departments under the control of the civic authorities. With reference to public health, the memorandum says that perhaps the most important result of the amalgamation would be in this department; for a system of sanitary supervision in the interest of public health affecting contiguous communities, which are practically one, cannot be efficiently carried out unless the control is placed in one central authority. The communities of Edinburgh and Leith are absolutely indivisible, and require unity of action in every part of public administration, and especially in public health matters. In the Edinburgh Municipal and Police Acts a complete system of public health administration, brought up to the most recent date, has been sanctioned by Parliament, but the powers of these Acts do not apply within Leith; and

where the powers of Leith fall short of enabling the burgh to deal effectively with the isolation and prevention of the spread of disease, to that extent are the powers and action of the Edinburgh authorities neutralised. Uniformity of dealing with infectious disease is considered to be essential for the protection and well-being of any community, and where there is, as in the present case, a united community under separate jurisdiction it is conceded on all hands that efficiency requires that a central municipal and police authority should be responsible for the administration within the entire community. By amalgamation public health matters would be more economically and conveniently worked. So far as the public health is concerned there can be only one opinion as to the desirability of this amalgamation.

University Graduation Ceremony in Glasgow.

The usual summer graduation ceremony in connexion with the Medical Faculty of the University of Glasgow took place in the Bute Hall on Thursday, July 26th. It will always be remembered as a most notable occasion in the history of the University for two reasons—first, on account of the unusual number of men presented for the degrees of M.B. and C.M. ("with honours," no fewer than five); and secondly, because Glasgow had the distinction on that day of admitting for the first time in Scotland two women to the medical degrees of Bachelor of Medicine and Master of Surgery. Eleven candidates obtained the degree of M.D. and sixty-one the M.B. and C.M.; of these latter, five gained "honours," six (one of whom was a lady) "high commendation," and eight "commendation." The "capping" of the two lady graduates was hailed with much enthusiasm by the audience, the students applauding most vociferously, and singing with even more than their usual energy, "For she's a jolly good fellow!" At the conclusion of the ceremony Professor Charteris gave the customary valedictory address. After referring to the graduation of ladies in medicine, and suggesting humorously that their title should be "Spinster of Medicine and Mistress of Surgery," he congratulated the graduates on the large number who had succeeded in gaining honours, and explained the working of the rule according to which honours are conferred. The requisite number of marks (1000) is made up by the numbers obtained at the professional examinations, augmented by 10 for each first-class certificate gained at the class examinations during the whole course of study. He believed that if this had been generally known to the students class work would have been stimulated, and more men would have secured honours. Professor Charteris continued his address (a portion of which has already appeared in the columns of THE LANCET), discussing bacteriology, therapeutics, and the new University ordinances. He pointed out the relation of micro-organisms to disease, and expressed a hope that the time would soon come when the serum treatment, now in its infancy, would be so matured as to provide us with antitoxines, potent and safe, for each specific infectious disease. He adverted to therapeutic advances in dealing with diseases not of microbial causation; to the use of the salicylates in rheumatism, piperazine in gouty conditions, new antipyretics and hypnotics, and thyroid feeding in myxœdema; deprecating, however, the indiscriminate use of organic extracts for affections of almost every organ of the body. These remarks he followed up by a vigorous protest with regard to the very anomalous position his subject (therapeutics) occupies in the University of Glasgow; it presupposes a previous knowledge of pathology as an essential condition to its intelligent comprehension, while, by a certain University ordinance, it is actually made to precede that subject. Another and a very serious anomaly he denounced—the absence of any provision, in connexion with his chair of Materia Medica and Therapeutics, for the teaching of his subject in the only rational way—namely, by bedside instruction in hospital. He said; "Therapeutics is essentially practical. It means bedside instruction. It is a mere quibbling with words to maintain it can be anything else. Therapeutics is now by ordinance an integral part of university training. It has to be taught and examined on. This teaching and this examination can only be carried out in a complete and satisfactory manner in the wards of a hospital. And this is recognised by every university and school of medicine in this country and abroad, except in the one to which I belong. The position here cannot be concealed or ignored, and, though I have a special personal interest in it, I wish to deal with it on general grounds alone. The man is to be envied who is enabled to carry out this most important work by virtue of a hospital appointment; the man is not to be envied whose sole facilities for instruction are a class-room, a chalk pencil, a blackboard, and a pointer. Such instruction is unfair to the subject, to the student, and to the teacher." This protest seems to be reasonable and to have ample justification, and is sure to attract considerable attention. Professor Charteris concluded a very excellent address by directing special notice to one of the powers with which university courts are now endowed—namely, the encouragement of special study and research by the institution of research fellowships, for which ends the courts may set aside out of the general University fund such sums as they may think necessary. There can be no doubt that generosity in this direction would be amply repaid, particularly in keeping the best of the graduates longer in connexion with the University.

July 28th.

PARIS.

(FROM OUR OWN CORRESPONDENT.)

Pathogenesi of Mercurial Stomatitis.

FOR some time past M. Maurel of Toulouse has noticed that leucocytes rapidly lost their vital properties when brought into contact with mercurial solutions. Thinking that the pathological modifications induced in mucous membranes by the prolonged ingestion of salts of mercury were possibly due to this physiological disabling of the white corpuscle, and that, as a consequence of the loss of this phagocytic action, the micro-organisms normally present in the mouth exercised unchecked their deleterious effects, M. Maurel now gives[1] the results of experiments undertaken with a view to clearing up this question. Having previously determined the existence, in the normal nasal mucous membrane of the rabbit, of non-pathogenic microbes, he mercurialised by means of hypodermic injections of corrosive sublimate a certain number of healthy rodents. While the injection of five milligrammes per kilogramme of body-weight exercised no influence on the nasal mucous membrane, an abscess of the pituitary membrane was invariably the result of the injection of one centigramme of the salt per kilogramme. The same phenomenon was observed in the intestinal mucous membrane. M. Maurel comes then to the conclusion that stomatitis &c. due to mercurialisation is brought about by the action of the microbes normally present in the mucous secretion, their unwonted activity resulting from the paralysing by the mercury of the phagocytic function of the leucocytes.

Double Parotitis and Biliary Lithiasis as Complications and Sequelæ respectively of Typhoid Fever.

MM. Gilbert and L. Fournier recently treated a case of typhoid fever at the Hôpital Tenon which, on the tenth day, was complicated by double suppurative parotitis. The pus contained in a pure state the staphylococcus aureus. The abscesses quickly healed. Two months later the woman was readmitted with biliary colic (rigors, sharp pain in the region of the gall-bladder radiating to the epigastrium, and recurrent vomiting of green matter). The parotid abscesses were due to ascending infection, the mechanism of which is now familiar to us. Their early occurrence and their bilaterality are uncommon. As regards the sequelæ of biliary lithiasis several examples have been recorded. The researches of Dupré, Gilbert and Girode, and Chiari have established the existence, in such cases, of cholecystitis due to infection of the biliary tract by Eberth's bacillus.

The late Dr. Maillot.

The death is announced, at the age of ninety-two, of the senior surgeon of the French Army, Dr. Maillot. But the claims of this practitioner to our notice are not based exclusively on his seniority in the army. His name will never be forgotten in the annals of the Army of Algeria. When as a young officer Maillot was stationed at Bône (Algeria) the troops were decimated by fever. Broussais' teaching was then predominant, and, the paludic nature of the malady being unsuspected, the unfortunate soldiers were mercilessly bled, so that their dead bodies were literally bloodless. Horrified by this therapeutical carnage, Maillot condemned venesection and administered quinine. The mortality immediately diminished considerably, but the hardy innovator

[1] Acad. de Méd., July 24th, 1894.

incurred the bitter enmity of Broussais. When the second consignment of quinine arrived in the colony Dr. Maillot had to pay for it out of his own pocket. The quarrel grew hotter, and Broussais' influence brought about the enforced resignation of Maillot. But time, always just, brought consolation to this enlightened *confrère*, for by a decree dated July 25th, 1888, a national reward was accorded to him for his services to Algerian colonisation. His name is perpetuated in Algeria, where a village and streets in Algiers and in Bône are named after him.

Professor Pouchet's Successors.

The chair of Comparative Anatomy at the Museum of Natural History (Jardin des Plantes) rendered vacant by the decease of Professor Georges Pouchet has been conferred on M. Filhol, D.Sc., M.D., subdirector of the laboratory of Zoological and Physiological Anatomy at the École Pratique des Hautes Études. The course of biology lectures given annually by the late Professor at the Hôtel de Ville will henceforth be delivered by Dr. Ratterer, *professeur-agrégé* at the Faculty of Medicine.

July 30th.

CANADA.

(FROM OUR OWN CORRESPONDENT.)

Ontario Medical Association.

THE annual gatherings of this association, which have for some years been held in Toronto, are the best-attended of any of the Provincial or State meetings in America, and the one held last month was no exception to the rule. The President, Dr. L. McFarlane, Toronto, in the annual address, made a plea for State aid in medicine, at least in that branch which has for its especial study the cause and prevention of disease. The papers, which partook more of a practical character than has been their wont, were read in sections. Among those presented I noticed: Placenta Prævia, by Dr. J. A. Temple; the Treatment of Strangulated Hernia, by Mr. Wishart; Cholecystotomy, by Dr. Whiteman; and the Artificial Feeding and Care of Children, by Mr. McCullough.

Ontario Medical Council.

The twenty-ninth annual session convened in this city on June 12th last under the presidency of Dr. Campbell, of London, Ontario. Much discussion has arisen in the press over the legality of convening this council before the election as provided by the enactment of the Legislature, 1893. The presidential address was a defence of the old *régime*. The question of the council taking action in the matter of club and contract practice was discussed, and it was decided that they had no control over the profession. By-laws were passed governing the elections which will take place in October next.

Obituary.

I have to chronicle the death of Dr. G. E. Fenwick of Montreal, at the age of sixty-nine. Deceased, after filling several positions on the staff of the medical department at McGill University, was elected Professor of Clinical Surgery. I must also mention the death, at the age of seventy-six, of Dr. A. G. Fenwick, London, Ontario, Professor of Medical Jurisprudence and Toxicology in the Western University.

Sale of Prussic Acid.

The columns of our daily press have recently chronicled at least three deaths from the taking of this drug, and in a fourth it was charged that murder had been accomplished by it; certainly it was shown that the drug had been readily purchased in this case, as in the other three, which were suicides. It is to be feared that the law is not enforced as well as it should be in this particular.

Opium Smuggling.

From time to time the officials of the United States capture persons engaged in this business. The crude drug is imported into Canada, paying one dollar a pound duty. Here it is prepared and then smuggled across the boundary. Our imports of the crude drug for 1893 were 155,000 pounds, certainly a large quantity for the population. No doubt the prohibitive excise duty of twelve dollars a pound levied by the States authorities is the cause of the business. This week an operator was captured with over £1000 worth of the drug in his possession. It is claimed that he has smuggled from one to two hundred pounds per week from Montreal and other points.

Small-pox in Ontario.

Although Chicago and other of the American cities have been suffering from cases of this disease, so far the vigilance of the provincial board has prevented any outbreak, only a few cases having been reported. These have been promptly dealt with by the local officers. Vaccination has been actively carried out in Toronto, Hamilton, and in the western counties lying along the American border.

Toronto, July 18th.

Obituary.

HERBERT GOUDE, M.D. DURH., F.R.C.S. EDIN., M.R.C.S. ENG., L.S.A.,

RESIDENT MEDICAL OFFICER TO THE SMALL-POX HOSPITAL, HIGHGATE.

THE death of Dr. Goude was premature and unexpected, occurring in his bed and being caused by cardiac syncope. He was born in Cheapside, London, in 1846, and was the eldest son of the late Mr. J. F. Goude, surgeon, who practised in that neighbourhood. He was educated at the City of London School. In 1862 he was apprenticed to his father. In 1865 he entered St. Bartholomew's Hospital. Here he became house surgeon to Mr. (now Sir J.) Paget, and resident midwifery assistant. In 1867 and 1868 respectively he passed the Matriculation and the Preliminary Scientific Examinations of the London University. His professional qualifications are given above. On leaving St. Bartholomew's Hospital he was appointed house surgeon to St. Mark's Hospital for Fistula. Afterwards he travelled for six months, subsequently becoming house surgeon to the Lock Hospital. Later still he travelled throughout Europe for five years, after which he became registrar to the National Orthopædic Hospital, Oxford-street. In 1880 he was appointed resident medical officer to the Highgate Small-pox Hospital, in the service of which he was to spend the remainder of his days, confirming and extending the great work of Marson and his successors. While here he further earned the gratitude of the governors, and a grant of money from them, by writing a full history of the hospital from its foundation in 1746 at Battle Bridge, King's Cross, up to the present time. Few hospitals have played a more important part in their work or by means of their workmen. To merely state the chief incidents of such a life is interesting, so varied and yet so numerous were they. We can only regret that it has closed so soon. The great lesson of the value of vaccination which he enforced is still unlearnt by thousands; but it is not the less real, and history will not the less own its obligations to him and his fellow labourers.

ANDREW MILLER, M.D. EDIN., M.R.C.S. ENG.

WE regret to learn of the death of Dr. Andrew Miller under peculiarly painful circumstances. Whilst taking a holiday at Henley-on-Thames and the rest enjoined upon him by Sir William Broadbent on account of an affection of his heart Dr. Miller was riding a favourite horse when the animal became unmanageable and threw its rider, who fell on his head. Death from cardiac syncope unfortunately ensued in half an hour from the accident. Dr. Miller was the son of Mr. Andrew Miller of Cannon-street and Arundell-square, who was well known throughout Great Britain for his evangelistic labours. He received his education at King's College, London, and subsequently in Edinburgh, taking his degree there in 1866. Two years previously he had obtained the M.R.C.S. Eng. Dr. Miller also studied his profession both at Paris and Vienna. Commencing practice in the Finchley-road, he went in 1869 to Adelaide, Australia, where he was very soon doing a large practice. In 1875 he left Adelaide and commenced practice at Hampstead, where he was equally successful. At Hampstead he was the genial centre of a large circle of attached friends; a keen Freemason, he assisted to found a local lodge of which he was a past master. Successful and helpful as a medical man, beloved by his patients, Dr. Miller yet shone more in home life; and the sincerity of his friendship, with his courtly kindness, endeared him to those with whom he was brought in contact.

THE

BRITISH MEDICAL ASSOCIATION.

MEETING AT BRISTOL.

THE sixty-second annual meeting of the British Medical Association was commenced in Bristol on Tuesday, July 31st, under the presidency of Dr. E. Long Fox.

The Bristol authorities who have organised the meeting deserve considerable credit for their very great and cordial hospitality to the members of the Association and for the general arrangements which have been made for the comfort of the members in all respects. The arrangements, which have been made by Dr. Griffiths, are of an unusually complete and satisfactory kind, and many entertainments have been devised for the visitors.

It is exactly thirty-one years since the British Medical Association held their last meeting at Bristol, and, as Dr. Long Fox recalls in his presidential address, there were present on that occasion, in the person of Sir George Humphry, Mr. Turner of Manchester, Dr. Addington Symonds, Dr. William Budd, Mr. Augustin Prichard, and Dr. Propert—the founder of the Royal Medical Benevolent College, a remarkable group of men. Dr. William Budd was a scientific prophet. The late Professor Tyndall said of him that "he was a man of the highest genius. There was no physician in England who during his lifetime showed anything like his penetration in the interpretation of zymotic disease." In the second volume of THE LANCET, 1867, p. 452, will be found Dr. William Budd's famous conclusions on tubercle, placed on record by the late Sir George Paget. These read now in the light of our present knowledge are seen to be a very remarkable contribution.

The opening address of the President, Dr. Long Fox, was felt by those who heard it to be fully worthy of the occasion. In temperate and thoughtful terms he expounded the relationship which medicine bears to the State, or rather the services rendered to the State by members of the medical profession. His reference to Edward Jenner was happily chosen, seeing that the centenary of the discovery which proceeded from the Vale of Berkeley is just on the point of completion. But one of the most striking parts of his address was that in which he dealt with the mentally feeble and the criminal subjects for whom the State has to make provision, and into whose condition scientific inquiry is making progress.

The Annual Museum was formally opened by a conversazione given by the exhibitors, which was largely attended both by members of the Association and their friends. Dr. Shingleton Smith introduced the ex-President, Dr. Philipson of Newcastle. Dr. Philipson, in declaring the Museum open, expressed his regret that the President had been unable to leave the general meeting for the purpose of opening the Exhibition, as had been announced. He expressed his pleasure at what he had seen in walking round, and felt certain that the Annual Museum would be a great success. On behalf of the Association he tendered his thanks to the exhibitors for their kindness in arranging the conversazione, because it helped to fill a gap which had been generally felt in the past, and allowed the members and their lady friends an opportunity for pleasant conversation. He congratulated the exhibitors on the beauty and variety of the exhibits and the neat way in which their stalls had been arranged. Mr. Townsend, on behalf of the exhibitors, thanked Dr. Philipson for presiding at the meeting.

In the museum a valuable antiquarian collection of instruments and other matters connected with the art of medicine has been displayed under the supervision of Messrs. Oppenheimer. They have been obtained from various sources and represent the ancient and mediæval methods in connexion with the practice of medicine and surgery. Even the therapeutics of the ancients can be, in some degree, ascertained by an examination of some of the relics. Members of the Association who were present at the Congress in Rome will immediately recognise many of the instruments; indeed, one of the most interesting portions of the International Medical Congress Museum consisted of some of these very instruments and models. These were described more or less fully in our report of that Congress. Although the ancient manuscripts themselves are not present, copies of their more interesting illuminations have been made and decorate the walls of this interesting room. They depict the mode in which operations were performed in olden days, the hospital accommodation which was provided in ancient Rome, and the mode in which the medical practitioners of the time were accustomed to examine and treat their patients. In addition to this an interesting series of drawings represents some of the votive offerings so largely used in ancient times to propitiate the gods and goddesses who were supposed to preside over the destinies of life. Such therapeutics is a form of treatment considerably in vogue even now in Southern Italy, and in the remote northern cities in even a less refined form. With very few exceptions the curios are real relics. The number of copies or duplicates is exceedingly limited, and in each instance marked as such.

Messrs. Ferris and Co. presented a very interesting display of valuable Chinese pictures illustrating the toxic action of opium.

Dr. Frederick T. Roberts, in taking the chair at the Section of Medicine, did good service by skilfully showing that the subjects chosen for discussion were such as proved the need of a wide study of medicine, and the folly of concentrating attention upon one single feature of a disease. His brief address was well calculated to give the proceedings of the section a good "set off," for it was enthusiastic, hopeful, and bright.

If, as we understand to be the case, Dr. Swayne gave the address in the year 1863, on obstetric medicine, it was obviously exceedingly appropriate that on the present occasion he should take the opportunity to contrast the position of obstetric medicine and gynæcology then and now. Rapid progress has been made all along the line. Figuratively speaking, new worlds have been discovered in this department of medicine, the discoveries being made possible by antiseptics. Thirty years ago the rational treatment of puerperal fever was unknown, or nearly so, for by the rational treatment we understand the preventive treatment, which after all is the only satisfactory way of dealing with the terrible disease.

Dr. Swayne dwelt on the importance of midwifery, including gynæcology, as one of the three great branches of professional knowledge, and deprecated the notion that obstetricians should be considered specialists in any narrow sense, any more than that designation applies to physicians and surgeons. There is a broad definition of specialism as well as a narrow one. The progress made in medicine, surgery, and obstetric medicine has been so vast that it has long been impossible for any one man to possess the knowledge that a physician, surgeon, and obstetrician had in their respective departments. In that sense they are specialists, and probably have no objection to be so designated. Dr. Swayne, we take it, objects to the designation in its narrow sense, the logical result of which would be for every small division of medicine, or even every symptom, to be elevated

into a speciality, with a specialist who practised nothing else, and a special hospital to practise it in. We take it that Dr. Swayne would deprecate the further subdivision of obstetric practice into midwifery only and gynæcology only; the two are so closely interdependent that they must be studied and practised together.

The thoughtful and suggestive address delivered by Dr. Blandford in the Psychological Section opens up several lines of inquiry, the pursuit of which might lead to important results. There seems to be little doubt that neurotic affections of all kinds are on the increase, and this is attributable to the greater demands that are made by the requirements of modern life upon the nervous system. The range of subjects to be acquired is constantly enlarging; the time that has to be given to their study is much longer; education is begun earlier and carried on to a more advanced period of life. It is, therefore, not surprising that when there is any weakness of the nervous system when the nutrition of the physical basis of the mind is impaired, certain faculties should be deteriorated or lost, whilst others are exaggerated, and that there should be some disturbance or even complete overthrow of their proper balance. It is in the highest degree important that every effort should be made to maintain the integrity of the nervous system and to prevent neurotic affections from becoming accentuated and intensified. The great attention that has been paid to athletic exercises in the young of both sexes of late years has been of incalculable value in this respect by strengthening and rendering more stable the neuro-muscular apparatus, and by preventing too continuous attention to purely scholastic work. But there still remains the important factor of heredity, and Dr. Blandford states that he has long been of opinion that insanity is to be prevented chiefly by limiting the propagation of the disease through the union of affected persons. The questions, however, immediately arise, Who are the persons most likely to cause the disease in their descendants, and how are such people to be prevented from marrying? In regard to the first point he quotes the dictum of Sir B. W. Richardson to the effect that anything like continuous transmission of insanity comes through the male line and not the female. Is this correct? Dr. Blandford takes the precisely opposite view, and, from his own observations of inherited insanity, is inclined to hold that the taint is transmitted through the female rather than the male. However this may be, the opinion held by Dr. Blandford, broadly stated, is that no man or woman should marry who has had an attack of insanity.

The address on the Therapeutics of Diseases of the Nose, Pharynx, and Larynx, by Dr. McBride, was couched in a moderate and judicial tone. If it of itself contained nothing that was new, it at any rate dealt with some of the novelties in treatment from a cautious and thoroughly practical standpoint. The address served as yet another illustration of the immense value of a patient study of morbid anatomy and of experimental pathology in order to advance our knowledge not only of diseases of the whole body, but of its special regions, and the application of this knowledge makes more easy the clinical recognition of the varieties of disease. The galvano-caustic treatment of hay fever is spoken of as most uncertain in its results and, we might add, most disappointing. Dr. McBride, when discussing the question of the treatment of asthma and allied neuroses by operative measures applied to the nose, rightly insists on the importance of the practitioner not taking too narrow a view of the affection and neglecting other sources of peripheral irritation. He mentions the subject of the treatment of tuberculosis, but does not state his impressions of the value of the newer methods of treatment; indeed, in his praiseworthy desire to avoid polemics he has in more than one instance left us in the dark as to his own opinion of the worth of the therapeutic measures he is discussing. He concludes his address with some well-timed words of caution with regard to operations of an experimental nature. We entirely agree that these measures are best practised only by those who are of considerable standing in the profession, and only then after the subject has been fairly set before the patient.

A noteworthy feature of this meeting is the fact that for the first time in the history of the Association many of the lady members were in attendance. This is the more noteworthy since at the last meeting of the Bristol Branch Association a resolution was unanimously adopted by which lady members were made eligible for all the offices of the branch, not excepting even the post of President.

A very interesting complimentary concert, at the reception of the President, was given by the Bristol Orpheus Glee Society on Wednesday evening, the conductor of which was Mr. George Raseley. The choir performed an excellent programme, which was much appreciated by the members.

The Middlemore Prize of £50 for 1894 was awarded to Mr. Edward Treacher Collins, F.R.C.S., who is at present travelling in Persia.

THE GENERAL MEETINGS.

THE FIRST GENERAL MEETING.

There was a full attendance of members of the Association on Tuesday, July 31st, at the first general meeting, held in the Victoria Rooms, Clifton; upwards of 500 members were present.

APPOINTMENT OF PRESIDENT.

Dr. Philipson, after the minutes of the previous meeting had been read by the secretary of the Association, vacated the chair. He introduced the new President, Dr Long Fox. After thanking the Association for the honour conferred on him by electing him as President, he offered his congratulations to the members of the Association upon its continued progress, on its meeting at Bristol, and especially upon the choice of such a distinguished gentleman as Dr. Long Fox as President for the ensuing year. He felt that in Dr. Long Fox the interests of the Association would be advanced and that he would occupy the chair with dignity and efficiency. Dr. Long Fox thanked those present for the cordiality of his reception and took the chair. Dr. Bridgewater moved, and Dr. Coleman seconded, a vote of thanks to the retiring President, who was elected a Vice-President for life.

REPORT OF THE COUNCIL.

Dr. Ward Cousins moved, as president of the council, that the report of the council, together with the financial statement, be adopted. He referred to the fact that at the time of the last meeting in Bristol the Association had no surplus financially, and now they had a surplus of £55,000. He reviewed favourably the work of the various committees of the Association. Before the vote was put to the meeting Surgeon-Major Ince diversified the proceedings by moving, "That, whilst being unwilling on this occasion to refer back the report to the council, the Association regrets the great and growing increased expenditure as compared with the revenue, and suggests to the Council the expediency of the reduction thereof, especially in the matter of editorial expenses, office salaries, and wages."

Mr. H. T. Butlin, the treasurer, pointed out that the finances of the Association were under good management, and defended himself against the criticisms of Surgeon-Major Ince.

The question of medical aid associations and amendments of the Medical Acts were discussed, but little definite was suggested.

At the adjourned meeting in the evening the President read the following address:—

THE PRESIDENT'S ADDRESS.

"It may be allowable to recall for a moment the last meeting of the Association in Bristol. It was just thirty-one years ago before the work of the meeting was divided into sections, when no one dreamed of the pecuniary condition of the Association ever being what it is to-day, or that branches would be planted, as they are, in most of the British colonies and dependencies. We were favoured by having a unique president in the person of Dr. Addington Symonds. Other names of members present at that meeting recall themselves to my mind: Propert, the founder of the Medical Benevolent College; Turner of Manchester, that prince of surgeons of his day, and as quaint as he was distinguished; our own William Budd, who read the Address in Medicine, whom we love to think of as almost the pioneer of microbal pathology in this country; Humphry, to whom Cambridge and England owe so much; Henry Marshall, who now takes high rank amongst us, and who then proved himself one of the best organising secretaries any annual meeting has ever known; and Augustin Prichard, whom we all honour to this day as the Nestor of surgery in Bristol. It would be unseemly, also, not to say a word about the great city in whose precincts we are welcoming the Association. It is one of the oldest in England, and some, especially those given more to legend than to history, suppose that it existed in an embryonic state 390 years before the Christian era. It is at least believed that our two Roman camps, one on each side of the gorge of Avon, were placed on the sites of British camps, and that the one on this side guarded the small town at the foot of the great rock. Some think that its birth was coeval with the beginning of Christianity in England, and a tradition exists that Joseph of Arimathea, the reputed founder of Glastonbury Abbey, was the first preacher here. Anyway it was a borough before the Norman conquest, and its chief magistrate, the Præpositus, equivalent of our present mayor, elected by free burgesses, was spoken of in Domesday Book. Coming now to the present, what is the advantage of our numbers, what the use of our combination, what the benefit of our knowledge of the wants of mankind and of the modes of their relief, if we are not from time to time to assert our claims to be, even more than we are at present, the advisers of the State? As a profession we are above party. Our highest aspirations tend to the formation of a pure commonwealth. The poor, the sick, the criminal are our daily study, primarily for the relief of the individual, but with nobler and further-reaching aims—namely, that poverty may be mitigated by more healthy surroundings; that sickness may be diminished by the education of the nation in the wiser laws of health, by increased temperance, and by a knowledge from an early age of the common facts of physiology; and that the criminal class in the future may occupy narrower limits, because no longer the victims of a debased heredity. Poverty, disease, and crime — these are the objects of our investigations as a profession, these are the foul blots in the State for which we seek amelioration. 'The medical man and the State.' Is this too ambitious a theme for an address before this representative body of the profession? Not the position we take in titles, or honours, or rewards. These are probably less thought of by us than by any of the workers in the commonwealth. But the question is rather, Of what use are we to the country? to what extent are we necessary to the State? to what degree and by what means have we risen in the estimation of the public? in what manner does the position assigned us in Plato's academic idea of a republic seem at the present day totally inadequate? The answer will lie in the nature of our work and our methods of performing it. What are some of the chief needs of an ideal State? Apart from the legislative and executive departments, it is necessary that the people should be healthy, strong, temperate, and wise. Speaking without political bias, it may be said that, whatever the form of government, whatever the strife of parties, it is simply a nineteenth century axiom that the nation, made up of individuals, is the only ruler. We as a profession have to deal first with individuals and then with conglomerate bodies of men. Granted a strong development, founded partly at least on obedience to the facts of heredity and on good sanitary laws, we may be sure the race will and must advance in all physical and mental conditions. It is ours to teach the authorities in the State what those sanitary laws should be; and England may be congratulated on the fact that the Local Government Board numbers a skilled medical man among its highest authorities, able to be in touch with the profession and to insist that medical views shall invariably be acted on. There are many here to-day who can bear hearty witness to the value of that Local Government Board to the State.

"We stand to-day almost in view of that Vale of Berkeley where at the beginning of the century the immortal Jenner, a quiet country doctor, brought to perfection by his accurate observations and his skilled reasoning on those observations the plan of vaccination for the prevention of small-pox. Our county, Gloucestershire, that produced such a man as Jenner, may well be considered worthy of honour, as he not only gave us a sure method for the prevention of the most terrible scourge England has ever known, but unwittingly laid the foundation of all microbal pathology. Was his a discovery that could be fittingly acknowledged by the thanks of Parliament, by sums of money, by titles and rewards, such as might be given by the head of the State? No. His reward was that each year he saved from death in England alone thousands of lives; and perhaps three times as many owed to him their immunity from the disfigurement and the local diseases consequent on small-pox. Is it not monstrous that in less than 100 years from the birth of vaccination the great work of this benefactor to the State should be rendered partially ineffectual by the crazy cry of the liberty of the subject? Are we to leave untouched and unhindered the men who, from faddish fears of the evils of vaccination—evils that might be entirely avoided by the use of calf lymph,—are endangering thousands of their fellow citizens and doing their utmost to interfere with the only reward to which Jenner looked forward, the well-being of the human race?

"It is in the realm of investigation that our profession has given some of the best service to the State. It may be permissible for a few moments to touch upon some of the more remarkable of these investigations."

After considering recent medical work in the comprehension of the pathological conditions produced by many noxious trades Dr. Long Fox referred to the progress that has of late been made in the study of neurology, and to the therapeutic developments foreshadowed by the use of animal extracts, and then discussed at some length the subject of feeble-minded children as follows:—

"This new idea of treating myxœdema leads up also to the question of feeble-mindedness in children, cretinism, and especially sporadic cretinism, which is only myxœdema in childhood. Here, if anywhere, are prolific proofs of the subject of to-day's address—the benefit conferred upon the State by the investigations of the profession. During the last century the attention of medical men in all parts of Europe and in America has been turned to the differentiation of the various forms of cretinism and idiocy, and to the possibilities of amelioration of the physical and mental feebleness of such cases. The subject is too vast for anything beyond mere mention here; but it touches biologists on questions of heredity, surgeons with reference to the relief of synostosis, and physicians, legislators, and criminal lawyers in its various phases. We are at last obtaining more accurate data for work by collecting real percentages of feeble-minded children in Board schools, a work in which our Association has borne no ignoble part. We owe a debt of gratitude to Dr. Güggenbuhl for leading the way among the Swiss cretins, as Pinel did among the idiots in France. We are learning that, except in the case of the microcephalous, cranial developments do not help us much in these researches, nor even pathological appearances. The power of attention and the consequent results of education are almost the only trustworthy data for differentiation. But this benefit to the State, due mainly to members of the medical profession, obtains not only in raising some of these afflicted ones to a dim apprehension of the abstract, but many more to a condition in which they are, partially at least, able to earn their own living, and be no longer wholly a burden to the community. This question, too, touches the great subject of criminology, one that has suffered from its most ardent supporters. Interesting as are Benedickt's observations on the lessened cubic area of the brain in criminals, interesting as are the minute investigations of every part of the human body by the great Italian *savants* Lombroso, Gerofalo, and others, one rises from a study of their results with the idea that the human race is composed of two divisions of men—the criminals who have been found out and those that have not yet been found

out. The criminal type, according to the notions of these learned men, would include too many of us to be of any practical use. And, after all, in England most certainly, the criminals who are unable, from physical abnormalities, to resist temptations to crime form an exceedingly small portion of our convict population; but among feeble-minded persons, who can be taught by object-lessons alone, and who may not have had the advantage of this teaching in such splendid institutions as Earlswood and Darenth, and the like, the one object-lesson they have been able to apprehend may have been some act condemned by law. What is the good of sending these poor creatures to prison over and over again? Instinct for food is their only faculty when they can no longer imitate their object-lesson. They may be too old for idiot institutions, they are unfitted for asylums, they are anomalies in prisons. There is need for some homes for them—not asylums, not penal settlements, but places where they could be taught something a little useful and where they could be tended with the kindness that should be the chief characteristic of a Christian State. Remembering how small a portion of the results of medical investigation has been touched upon to-day; how much good work is being done in examining the nature of that great organ—the blood—with its power, within certain limits, of combating successfully bacterial attacks; and how, in speaking of the diseases of the nervous system as perhaps the most important of all, no reference has been made to a vast number of other pathological processes that are receiving equally minute attention, is it not true that the medical profession has taken a high position of usefulness to the commonwealth? In every portion of the civilised world devotion to biological research in the widest sense is one of the chief characteristics of a doctor, the other being the desire to utilise the results of these investigations for the benefit of mankind. Science is almost infinite; and the stately centuries roll on, gifted with ever greater knowledge, with ever more abounding usefulness, each age helping the one to come by its successes and its failures; and, in spite of the many quackeries and nostrums of to-day, the position of medicine stands higher than in any previous age, and is making sure advance towards being recognised by-and-bye as an abstract science."

The President concluded by referring to medical influence in social life. It is to medical influence that the sensible care of children, the due relation of muscular and of mental work in schools, the method for regulating the health of body and mind amid the railway pace of modern life, the prolongation of existence to a ripe old age, are almost wholly due. What assistance, too, does it give so often to the law, though doubtless in this relation it would be better that in controversial cases the medical witnesses on each side should meet in consultation? I ask your forbearance in that, within the limits of an hour, I have been able to say so little on a subject that one has so much at heart. Happy is that State that legislates, in all things concerned with the well-being of the people, in dependence upon medical advice. As a profession, if not as individuals, we leave untouched treaties with foreign nations, many of the great commercial questions, nay, even the unity of the Empire, to minds with a different bias from ourselves. We concern ourselves with the well-being of the masses of mankind, the possibilities of the advancement of the race, the annihilation of all things that militate against the progress of the nation. To us the poor, the blind, the deaf, the feeble-minded, are not merely divisions of the human family to be fed and cared for, but brothers and sisters of our own, to be raised still higher in the economy of nature. Our thoughts are given to the prevention and relief of suffering; our highest ambition is to leave each generation better than we found it, and by the results of our investigations and by the influence of our lives to form foundations for our successors to rise higher still, and to elevate the race to a point impossible for ourselves to deserve to have it said of each one of us, as it was of the great Head of our profession, 'He went about doing good, healing all that were diseased, for God was with Him.'"

The address was listened to with much interest and approbation.

Dr. Russell Reynolds, F.R.S., President of the Royal College of Physicians of London, in moving a vote of thanks to the President for his address, said that he did so with the utmost pleasure. There was no more difficult duty than that of producing an address, going far and wide—ranging as the President had done. Dr. Long Fox had selected those subjects on which he could comment and with singular facility had chosen those upon which it would have been difficult to speak with any positive opinion. The address had drawn attention to a matter which, in his opinion, had not been sufficiently observed, and that was the great benefits that have been conferred upon the profession by the naval and army medical officers. They were brought into contact with diseases which in this country were rare. They were familiar with the conditions of those diseases, and imparted to others information which otherwise the profession would almost entirely be deprived of. Alluding to Jenner, he said, although he held Jenner to be the founder in our country of that school of medicine and therapeutics which had become really of late a fashion with the physiologist and the pathologist—the school which dealt with the microbe—the school was foreseen by the immortal Harvey, who clearly stated the possibility of the germ theory of disease. There was much in what the President had said about which they could not, without pondering upon it, express themselves at that moment; but he agreed with his references to the treatment of idiots, and he thought it was desirable that the Association, as a profession, should express an opinion with regard to that most miserable practice—the repeated imprisonment of those who by disease were victims of crime.

The resolution was seconded by Mr. White, Nottingham, and carried by acclamation.

THE PARLIAMENTARY BILLS COMMITTEE.

The report of the committee was submitted by the chairman, and showed a record of considerable work. Among the more important matters dealt with were the sale of proprietary medicines containing poison, the registration of midwives, and the amendments to the Medical Acts.

Mr. T. Garratt Horder of Cardiff proposed a resolution referring the report of the Parliamentary Bills Committee back for further consideration. He said that the amendments proposed were too wide. He complained that they could not prevent outsiders practising, and he alluded to the exception which the committee propose to make enabling persons holding foreign qualifications entitling them to practise medicine or surgery in a British possession or foreign country to remain unaffected by the proposed alteration of the Medical Acts.

This was seconded by Mr. Mead.

The Chairman explained that, although the branches had been communicated with, they had not all responded to the invitation to express their views on this question. Many of the branches had approved of the committee's action, others had sent in amendments of a trivial nature.

Mr. George Brown indicated that it would be wise to ask Parliament for all they wanted for the defence of the public; he did not see the use of referring a matter of this kind to solicitors, who did not know what the needs of the case were.

The amendment was carried by about 40 votes, when the Chairman explained that the report was only presented as a temporary suggestion and not as a permanent arrangement.

With respect to the registration of midwives, Dr. Lovell Drage of Hatfield argued that the poorer classes of women would not be benefited by the adoption of a system of registration, as the experience of other countries was contrary to this contention. He thought the unwisdom of such a system was manifest when one compared the puerperal mortality in England with that which obtained in other countries.

Dr. More Madden, in seconding the resolution, agreed with the contention of Dr. Drage.

Dr. Woodcock of Manchester expressed the opinion that the midwife was as much out of date as the barber-surgeon of the past.

Dr. Boxall also spoke.

At a late hour the report as amended was adopted, and the meeting adjourned.

SECOND GENERAL MEETING.

On Wednesday the Association met again in general conclave to hear Sir T. Grainger Stewart's Address in Medicine, which was listened to with great attention by his large audience. We print the address in full in our present issue. When it was concluded Dr. Roberts proposed, and Dr. Shingleton Smith seconded, a vote of thanks to Sir T. Grainger Stewart, which was cordially awarded.

The only other business consisted of a motion regarding the payment of members' railway fares.

THE SECTIONS.

The sectional work was commenced on Wednesday, Aug. 1st. There was a very fair attendance at several of the sections, the subjects set down for discussion being very

generally interesting, and, if a little stereotyped, still interesting because wanting a definite scientific verdict.

MEDICINE.

Address by the President of the Section.

Dr. FREDERICK ROBERTS, Professor of Materia Medica and Therapeutics, University College, and Physician to University College Hospital, President of this Section, read the following paper:—

"The distinction of being invited to fill the office of President of the Section of Medicine at this meeting of the British Medical Association is one for which I can truly say I was utterly unprepared, and which I humbly acknowledge is entirely undeserved so far as regards any services rendered by me to the Association. I can only express my deep sense of the honour thus conferred upon me, my sincere gratitude for the friendly feelings which I know full well prompted the selection, and my earnest desire to prove myself worthy of the responsible position in which I have been placed. On the present occasion I cannot avoid recalling a fact which probably will be of interest to all here—namely, that when I acted as secretary to this Section at Manchester in 1877 the President was Sir William Jenner, whose great name still sheds lustre upon our profession; and among those who took an active part in the proceedings were Dr. Russell Reynolds, now the distinguished President of the Royal College of Physicians of London, as well as Sir (then Dr.) Andrew Clark, Dr. Wilson Fox, and Dr. Charcot, whose untimely death in the full possession of their remarkable powers we have to deplore, but whose names will ever stand out prominently among those of their contemporaries.

"It would be absurd to attempt to discuss any definite subject, or even to sound forth the triumphs of medicine since the Association last met, or to tell of the advances and achievements of which it can boast. We certainly are living in stirring, not to say startling, times, and one might be easily tempted on an occasion like this to do a little in the way of boasting. I shall leave that performance, however, to others, and I have an impression that in this Section we shall hear some remarkable facts. In the remaining time at my disposal my first impulse is to give expression to a feeling of personal satisfaction and congratulation on account of the fact that, having regard to the rapid march and development of events which are familiar to you all, we still have left a Section of Medicine at all—that is, a section which recognises the general significance of the expression, and which grants us the liberty of selecting for discussion, on a broad and comprehensive basis, any subject belonging to any branch which by common usage may fairly be regarded as coming within its scope. I cannot help expressing the hope that, whatever happens in the future, this Section may never cease to have a separate and independent existence. Whether you agree with me on this point or not, I feel sure you will acknowledge that those who have had the actual responsibility of arranging the business for this Section have done excellent service. In addition to procuring a number of most promising papers on a variety of subjects they have managed to secure and appropriate questions for discussion which, while differing widely in their character, are severally full of interest and importance and, in my opinion, afford conspicuous illustrations of the advantages of a general Section of this kind. I shall not at the present moment touch upon either of these questions from a controversial point of view, but they have suggested to me two or three considerations, which I venture to submit to you, and which I think cannot be too strongly enforced in these days. You must all be familiar with certain tendencies which prevail extensively among the laity at the present day, and which, I believe, are even now doing much harm, but are likely to lead to much more serious mischief in the future if not checked. It is a common notion that each system and organ in the body must be regarded and dealt with as a distinct entity, working independently of all the rest, while their relation to general conditions of the body is often entirely ignored. Another striking tendency is to attribute every disorder or symptom, whatever may be its nature, invariably to one particular organ, which differs according to the peculiar fad of the individual. I am not at all sure that the profession is altogether free from these tendencies, or, at any rate, that we realise to their full extent the pathological relations of organs and systems to each other, or adequately recognise their connexions with various general morbid conditions. What a protest against narrow and erroneous views of this kind is such a subject as that of Functional Diseases of the Heart. Fancy a medical man entering upon the investigation of, or attempting to treat, any case of this nature guided by such absurd notions. I confidently look forward to the discussion on this subject as one that will teach both the profession and the public far wider and deeper lessons than those with which it is more immediately concerned, and that it will be the means of putting some check upon those dangerous modern tendencies which, as rational and conscientious practitioners of medicine, we dare not ignore. Our second subject—namely, Pyrexia and its Treatment—grapples with a general pathological state of the utmost importance, and one which, in different degrees and in various associations, more or less constantly confronts every medical man in his daily practice, whatever may be its exact nature and scope, often puzzling him and baffling his best and most skilful efforts. What I venture to suggest with regard to this subject is that it cannot and ought not to be approached or studied from a narrow or one-sided point of view, and that no class of workers or investigators have any right to claim that they, and they alone, are capable of elucidating the intricate and difficult questions connected with it and that their teaching must be accepted as absolute and sufficient. Pyrexia has its highly practical as well as its scientific aspects, and, while we welcome with gratitude any light thrown upon it by physiologists, experimental pathologists, or experimental pharmacologists, I submit that neither nor all of these can take the place of the clinical observer, the practical therapeutist, or the general practitioner, who in his daily life has to face and do battle with fever under all possible conditions. What more appropriate or comprehensive subject could we have for discussion in this general Section? It must be cordially and gratefully acknowledged by every fair-minded observer that the special study of certain branches of medicine, and of particular systems and organs, has within the memory of most of us here present yielded remarkable and even astounding results, has often entirely revolutionised our knowledge and ideas, and has in fact opened to us new worlds. The nervous system affords one of the most striking illustrations of this statement, and when I contrast the present state of neurology with what it was in my student days I feel positively overwhelmed with wonder and awe. Probably you will all agree with me that specialism is nowadays sometimes carried to a ridiculous point, but here is a specialism which is not only permissible but inevitable, and which commands our respect and admiration. It is with the greatest pleasure and satisfaction that I welcome a discussion in this Section on Ataxia, which is so important a subject in itself and which belongs to such an interesting branch of medicine. We have met together for mutual instruction, and I would like to add a few words as to certain kinds of teaching which I think we as a profession emphatically need in these days. There is no lack of ardent and enthusiastic workers, of competent and devoted scientific investigators, of careful and diligent clinical and pathological observers, or of prolific writers. Knowledge is being daily added to in a remarkable way, while eager and active research is striving to get at the truth and reality of things in every direction. But this is not enough. We want the instruction of men of practical experience—that is, of those who, having enjoyed adequate opportunities of studying the subjects which they assume to teach, having made good use of such opportunities, and having arrived at years of maturity, are able and willing to impart to the profession generally the outcome of their observations and thought. Then we are sorely in need of the help of those who possess the faculty of grasping and arranging methodically the vast accumulation of new facts and theories which threaten to overwhelm us, of systematising and condensing them in such a manner as to bring order out of chaos, and of presenting the subjects to which they pertain in a simplified and intelligible form to the minds of those who are not endowed with this capacity. And, lastly, we joyfully welcome the teaching of those who, be they young or old, having devoted themselves to the study of special subjects under favourable conditions, are prepared to give us the benefit of their knowledge and experience. Looking over the lists of those who are to introduce the several subjects in this Section and who have promised to take part in their discussion, I confidentally affirm that they all come under one or other of the categories to which I have just referred, and I feel a justifiable pride in being associated with them as President. But let me add that we cordially invite the help of all present, for our subjects offer scope for the physiologist, the experimental pathologist, the

bacteriologist, the pharmacologist and therapeutist, as well as for the general physician, and, last but by no means least, the general practitioner. And now let us proceed to the work set before us with energy and diligence, with hearty goodwill, and with practical common sense, recognising the value of time and the necessity of adhering as closely as possible to prescribed regulations. I earnestly hope that the outcome of our proceedings will be not only the promotion of good fellowship but also the permanent advance of Medicine as a science and art, the clearing away of difficulties and obscurities which have hitherto obstructed its progress, and the establishment of knowledge and truth on a firm basis. Thus shall we help on in some measure the great objects for which, as a profession, we are all ultimately striving, and do our part in combating disease in every form, in relieving suffering and distress, and in contributing to the general well-being of the human race."

At the conclusion of his address Dr. Roberts called upon Dr. Douglas Powell to open a discussion upon :—

Functional Diseases of the Heart.

Dr. DOUGLAS POWELL said that the term "functional" had been objected to, but he was inclined to favour its retention. It was a useful expression to denote disorders of function which were independent of recognisable structural changes, either during life or post mortem. He was reminded of a story of an American lady who consulted a London physician for various troublesome symptoms which she regarded as grave. After a full examination the physician told her that there was nothing serious the matter with her, to which her reply was : "That may be so, doctor ; but, at any rate, I guess I don't function well." Disorders of function might ultimately lead to organic changes, but were often for long periods independent of such changes. The commonest causes of functional disorders of the heart were the various forms of nervous overstrain, shock, acute specific diseases, and the like. The result was seen in various impairments of the cardiac mechanism. The pulse might be variously affected as regards frequency, tension, and rhythm. An abnormal frequency of pulse might occur, but he deprecated the use of the term "tachycardia" in all such cases. Many cases presented symptoms more or less analogous to angina pectoris ; in others there was more resemblance to Graves' disease. The question of pulse tension was extremely important, and the speaker dealt with it at length. He pointed out the great importance of the "recurrent pulse." In this condition, which was found in association with high tension, if two fingers were placed upon the pulse and some pressure exerted it would be found that the pulse ceased between the fingers, while a recurrent pulse would be felt from the periphery as far as the second finger. Abnormal slowness of the pulse ("bradycardia") was present in some cases, and had been met with as a sequela of typhoid fever and influenza. Sudden alternations of abnormal frequency or infrequency, with a normal rate, were sometimes observed. Subjective sensations were commonly well marked, and patients were usually morbidly conscious of the action of the heart and such phenomena as intermittence or irregularity. As regarded treatment, patients should be relieved of all causes of mental or physical overstrain. Iron and arsenic were useful drugs, and in some cases the trinitrine compounds gave relief. Dr. Douglas Powell concluded a very able and exhaustive address amidst hearty and general applause.

In the discussion which followed the following gentlemen took part :—Dr. Paul Chapman, Dr. J. A. Lindsay, Dr. Sansom, Dr. G. A. Gibson, Dr. Shingleton Smith, Dr. Watson Williams, Dr. Harry Campbell, Dr. Handford, Dr. Tyson, and Dr. Barr.

At the conclusion of the discussion Dr. DOUGLAS POWELL replied, and expressed his great satisfaction with the vigour and interest which had characterised it.

Dr. ROBERTS summed up the discussion and emphasised the most important points. He was inclined to attribute a more important part to alcohol and tobacco in the causation of functional cardiac disorders than the other speakers had done.

The Section was subsequently engaged in hearing a number of papers on various phases of Heart Disease.

SURGERY.

Address of the President of the Section.

The Section of Surgery was opened on Wednesday morning at ten o'clock, Mr. MITCHELL BANKS presiding. He began by recalling the many surgeons whom he had known during the past twenty-seven years. At this period of the world's history it would almost seem as if we had made an appreciable inroad upon what we used to conceive as time and space. Some of us lived three lives in one. He often felt a vague dread lest our own art be not hurrying along at a too breakneck speed, and that we should forget the surgeon's time-honoured motto, "Festina lente." We constantly say that printing and gunpowder, steam and electricity have upturned the life of man and altered the very face of the earth. Such have anæsthetics and antiseptics been to us in our own corner of the world's work ; and, moreover, these wonderful results have all been made manifest in the lifetime of living men. But we know in ordinary life that the greater the speed the greater the danger. At all our societies and meetings the cry of the old Athenians seemed ever to ring in our ears—"Show us some new thing." They were very clever, those Athenians. They had the acutest intellects that ever men were gifted with. Impatience and instability were their ruin. They fell beneath the stern and steady Roman, and were but women in the eyes of Alaric's savage Goths. It would be better if we pondered for awhile before offering what is new, so that we might be sure it was also true. He had heard an able politician say that it would be a good thing if Parliament were prorogued for five years, so that no more new laws might be made. There would then be a chance for men to comprehend those that were in existence. On the same principle he thought that it would not be a bad thing if for five years there were no new drugs invented, nor any new instruments, nor any new operations. We should have time to eliminate what is bad, and to bring to the highest pitch of perfection what is really good. Why was it that under new names we were continually reviving old methods of treatment which had but recently fallen into disuse? Because we had not given them a sufficiently thorough trial. From this desire to introduce something new springs the so-called "brilliant type." Men were tempted to bring forward their successful cases only ; the profession at large thus received a wrong impression as to the value of many surgical procedures. There was a *suggestio falsi*, if not a *suppressio veri*. It was the innate honesty of British surgery that made the Englishman the best doctor in the world. He saw in his patient a sick man whom he must cure. He regretted the existence in this country of much sentimental and spurious humanitarianism. It was of such stuff they made anti-vaccinationists and anti-vivisectionists, and, when their opinions were a little more obscure and exalted, anarchists. He concluded by saying that not a single operation, not a single plan of treatment, should be suggested that week by any member which he would, should the sad necessity arise, hesitate to extend to his own wife, his own mother, his own children.

Mr. A. PEARCE GOULD then introduced a discussion upon :—

The Operative Treatment of Gastric and Typhoid Ulcers associated with Perforation.

He said that eleven years ago Mr. Greig Smith proposed laparotomy, cleansing the peritoneal cavity and suture of the ulcer, suggested by a fatal case of perforating gastric ulcer which had been under his care. The operative treatment of this class of cases opened out a wide field for discussion, but in order to limit his subject he excluded cases of malignant perforation, also those of the vermiform appendix, and confined his remarks to the ordinary round ulcers of the stomach and duodenum, together with typhoid ulcers associated with perforation. The pathology of the perforating ulcer of the stomach and duodenum was still obscure. It was common in young and anæmic women of the servant class, and also in middle-aged men. It was usually single and situated on the lesser, and very rarely on the greater, curvature of the stomach. Its size was that of a sixpence or a shilling ; it was of variable depth, the floor being formed either of peritoneum, or possibly of a thickened area, up to the size of the palm of the hand. The symptoms for the most part were agonising pain after food, frequent vomiting, hæmatemesis, and melæna. At times the patient made no complaint, and was unaware of suffering any departure from health. In truth, the symptoms were no sure guide to the extent of the disease. In the majority of cases cicatrisation took place, although in 25 per cent. perforation occurred. In 85 per cent. the perforation was on the anterior aspect of the organ opening into the peritoneal cavity. Young servant

girls were especially prone to anterior perforation. Dealing with prophylactic excision, he said that Billroth recommended timely laparotomy, excision of the ulcer, and suture of the wound. In his (the speaker's) mind there was nothing to recommend that procedure. The mortality was great, and the operation was incomplete from the absence of one essential link—namely, that there was no sign to localise the exact position of the ulcer, whether front or back, whether cardiac or pyloric. In the large proportion of cases, moreover, the signs were so slight as not to warrant a diagnosis. Perforation, again, was often due to some acute process, and thus before the patient had shown any definite symptoms perforation occurred. Selection of cases was the keystone to true surgery, and he was inclined to advise that Billroth's suggestions be not adopted until it were possible to establish an exact diagnosis. At the same time he firmly believed that the time would come when we shall be able to diagnose the seat of the ulcer. At present surgeons reached perforations in the posterior wall through an anterior incision. This he believed to be anatomically indefensible. Clinically 85 per cent. of cases of gastric ulcer recovered under the care of the physician. With respect to perforation into the general peritoneal cavity this nearly always proved fatal, and death was occasionally due to shock. More generally, however, death occurred from peritonitis. The acute symptoms usually lasted twenty-four hours. Occasionally a fatal result occurred immediately. Primary shock varied greatly in its severity, and must be carefully distinguished from collapse. For its treatment surgical measures are of little avail, and little could be done beyond the administration of morphia hypodermically and warmth. The surgeon's duty consisted in the prevention or arrest of peritonitis. The only hope of doing good lay in cleansing the peritoneal cavity. Hitherto too much stress had been laid on suturing the rent in the stomach and too little on cleansing the peritoneum. The following measures should be adopted: (1) simple washing out of the abdominal cavity; (2) suture of the ulcer; and (3) where that was impossible, to suture the stomach to the abdominal parietes. But he could not too often repeat that the success of these cases depended upon cleansing the peritoneum. He related the case of a woman twenty-three years of age who suffered from chronic constipation, but showed no signs of gastric ulcer. She partook heartily of damsons, which she swallowed stones and all. Next day she took a dose of Epsom salts; this was followed by abdominal distension and pain, commencing in the lumbar region. Twenty-six hours after the onset of the acute symptoms the abdomen was opened below the umbilicus. A quantity of gas and acid fluid escaped. He cut down on the stomach and excised the ulcer. At the close of the operation the patient collapsed. She revived, however, after the intravenous injection of saline fluid, but death occurred after nine hours. On post-mortem examination the sutures were found to be firm, but there was general peritonitis. He reflected that to have firm sutures and a foul peritoneum was to shut the stable door when the steed had gone. He related other cases of operation by Messrs. Page and Pepper. The time of performing the operation was a matter of great importance. It should not be during the first stage of shock. Perhaps too much stress had been laid on operating early and too little on operating well. Practically, however, experience alone could decide the precise period when the operation should be performed. If too long a time were allowed to elapse the peritonitis became general and intensified. Moreover, under these circumstances masses of lymph concealed the affected parts, and interfered with the cleansing of the sac. The best site for the incision was in the middle line, as this gave the best access to the whole of the abdomen, while the seat of pain was no guide to localisation. First among the fluids used for flushing he placed normal salt solution, and then boiled water. He avoided acid or toxic solutions, and used the water hot, as he found it a powerful restorative. A vital step was the systematic flushing with a large exit tube; where practicable, he sewed up the ulcer, but attributed no particular advantage to paring or excising the ulcer. The stomach might or might not be washed out. The value of exploration with the finger was doubtful. When in doubt drainage should be resorted to. If the collapse were not relieved by hot water he practised intravenous injection. He read the notes of six successful cases of operation in perforating gastric ulcer. With regard to perforation in typhoid ulcers he had collected, excluding doubtful cases, seventeen cases of operation with one recovery. The steps of the operation were the same as those for gastric ulcer. Statistics showed that there were from 2½ to 3 per cent. of perforation in all cases of typhoid fever—most frequently occurring in the ileum, often multiple, sometimes so small as to allow no escape of intestinal contents. They usually took place during the third week, but cases were known as late as the sixty-sixth day. The symptoms may be very marked or quite latent. Death may close the scene in ten minutes; the patient rarely survives more than two days. Recovery was exceedingly rare. He concluded by saying that the truest wisdom was the wise selection of cases.

Dr. R. MACLAREN (Carlisle) read the notes of three cases of Gastric Ulceration in which he had operated. One died three days after operation; the second, a girl of fourteen, died nine hours and the third fifty-eight hours afterwards. He preferred to make his incision in the left linea semilunaris, four inches in length, which allowed good access to the stomach. He emphasised the point that cleansing of the peritoneum was all important. The conditions of success were system, perseverance, and a patient not on the verge of death from collapse. A detail of much importance in after-treatment was rectal feeding. Again, if the patient were much collapsed, he did not believe much in flushing. He described fully his method of cleansing the peritoneal cavity. In his opinion the operative procedures in these cases were troublesome rather than difficult. For example, if the intestines were distended, more difficulty was experienced. Great mortality was, however, only to be expected. He mentioned a case, in which he had the advice of Dr. Heron Watson, where perforation occurred in connexion with a typhoid ulcer. The only treatment adopted was that of making an incision over the cæcal region and inserting a drainage-tube. The patient, although desperately ill for some time afterwards, made an excellent recovery.

Mr. RUTHERFORD MORISON (Newcastle) related a case in which he had operated for gastric ulcer on a woman of twenty-three. She had had a large quantity of bread and milk for her supper, and one hour afterwards was suddenly seized with acute pain. On examination the diagnosis was arrived at of gastric perforation, but one of the chief symptoms present was dulness in the flanks. The collapse was extreme. Two hours afterwards the abdomen was opened in the middle line over the stomach and the omentum torn through, when a large quantity of fluid escaped, and an ulcer was found on the posterior wall of the stomach. Lembert's sutures were used. The abdomen was flushed out. The patient did well for five days, although there was great difficulty in managing her. Ultimately, however, she became very restless, passed into a collapsed condition, and died on the ninth day. He thought that the collapse at the time of operation in these cases was relieved by the operation and flushing of the abdomen. When the patient, however, was livid, any operation was certainly contra-indicated.

Mr. GILBERT BARLING thought that some of the expressions of opinion with respect to these cases were too optimistic, especially so in regard to typhoid ulcers. His experience was limited to five cases. In three of these he operated; in the fourth he regretted that he had not operated, and in the fifth the patient vomited pus and passed a large quantity of pus per anum, but after a perilous time ultimately recovered. In one of the cases upon which he had operated recovery followed. He agreed that the less done in perforating typhoid ulcers the better.

Dr. Ward Cousins of Southsea, Mr. W. F. Haslam of Birmingham, Mr. N. C. Dobson of Bristol, Mr. Damer Harrisson of Liverpool, Mr. Kendal Franks of Dublin, and others took part in an interesting discussion.

Dr. HERBERT SNOW read a paper on the Dispersible Tumours of the Bladder.

Mr. DAMER HARRISSON read a paper on the Treatment of Traumatic Delirium Tremens.

Mr. RUTHERFORD MORISON (Newcastle) read a paper on some points in the Anatomy of the Right Hypochondriac Region, relating especially to operation for gall stones. After describing the anatomy of the parts in the operation of opening the gall bladder for gall stones, he advocated a transverse incision running through the rectus muscle from an inch below the ninth rib to the loin and draining the gall bladder from the lower angle of the wound.

Mr. R. O'CALLAGHAN (London) read a paper on the Radical Cure for Strangulated Hernia in Octogenarians.

Mr. F. P. LOWE read a paper on the Treatment of Senile

Rheumatic Arthritis of the Hip-joint by Forcible Movements.

OBSTETRIC MEDICINE AND GYNÆCOLOGY.

Address by the President of the Section.

DR. J. G. SWAYNE, Professor of Midwifery, University College, Bristol, and Consulting Physician-Accoucheur, Bristol General Hospital, contrasted the year 1863 with 1894. He said: "At the time when I gave the Address in Midwifery no branch of the healing art was making more rapid advance, if we may judge by the brilliant success which attended the opening of the Obstetrical Society some four years previously. It was but natural, therefore, that in my address at that time I should contend that midwifery ought to occupy a more important position and stand decidedly next to medicine and surgery in the attention that was paid to it at our annual gatherings. I quoted in my address some very apposite remarks made by Dr. Tyler Smith in his address to the members of the Obstetrical Society the year before our meeting in Bristol: 'There is a tendency to call us specialists, against which we should all contend. We are not specialists in the sense in which the ophthalmic or aural surgeon follows a speciality. Midwifery is one of the three great departments into which the wants of society and the lapse of time have divided the profession; and if the charge of speciality is brought against the obstetrist it might with equal justice be urged against the physician or surgeon.' At the time when these words were spoken obstetric medicine and surgery had become far too wide to be considered a speciality; but how much more so is this the case now, when we look back at the wonderful progress which gynæcology has made of late years, and seen how, under the impetus imparted to it by the discovery of antiseptic surgery, it now performs safely and securely those extraordinary abdominal operations which before this discovery were considered so dangerous that our fathers, about the middle of this century, entertained serious thoughts of prohibiting them by law. Now, however, under the auspices of antiseptic gynæcology a number of difficult and important abdominal operations are performed with the happiest results, and a new race of gynæcological surgeons has arisen, who are developed out of these obstetric practitioners, who instinctively felt that they had sufficient skill and courage for these operations. But yet at the present time, notwithstanding all these wonderful results, we find by looking back at the past records of our Society that during the last thirty or forty years medicine and surgery are both, with scarcely an exception, represented by an annual address, whilst obstetric medicine and surgery stand, in this respect, on the same level, or even below, some of the specialities. For instance, in the ten years from 1858 to 1868 inclusive I find that there were only two addresses on midwifery and as many as three in physiology. Nor is there any improvement in this respect at the present time. During the ten years from 1884 to the present year inclusive there have been, as before, only two annual addresses on obstetric medicine, whereas there were as many as four on public medicine, irrespectively of those on medicine in general, and three out of these four were given in consecutive years—namely, 1885, 1886, and 1887. There were also two on physiology, one on psychology, and, lastly, one on bacteriology in 1892. *Sic parvis componere magna solebam.* I think, Gentlemen, you will agree with me that it is high time for obstetric medicine to reassert itself and to obtain a greater recognition than it has hitherto done at our annual meetings."

The Induction of Premature Labour.

A discussion on the Induction of Premature Labour was then opened by Dr. BARNES in an admirable paper. Dr. Barnes entered very minutely into the history and technique of the operation and of the causes which in his judgment called for its performance. He laid especial stress upon the necessity of inducing premature labour in cases of puerperal convulsions, and detailed the methods by which he thought it ought to be accomplished. He especially referred to the method which is always associated with his own name—namely, the induction of premature labour with Barnes' bags. He was followed by the President, Dr. J. G. SWAYNE, who recited his extensive experience of the conditions justifying the performance of the induction of premature labour. The next speaker was Dr. MORE MADDEN, who said that this subject was rather a discussion of the conditions which called for the induction of premature labour and the methods by which that might be effected. In the former he included all conditions which threatened risk to mother or child if allowed to progress to the full term of gestation. He inclined to the old methods of digital dilatation.

Professor Cameron of Glasgow, Dr. Tweedie of the Rotunda Hospital, Dublin, and Dr. James Murphy of Sunderland took part in the discussion.

The debate was one which evidently evoked a large amount of interest and animation. The general feeling seemed to be that the induction of premature labour was justified whenever conditions imperilling the safety of the mother were present if gestation was allowed to proceed to its full term. The risk to the viability of the child was a secondary consideration. The weight of opinion appeared to be in favour of the methods recommended by Dr. Barnes.

PSYCHOLOGY.

Address by the President of the Section.

Dr. G. FIELDING BLANDFORD, Lecturer on Psychological Medicine at St. George's Hospital, read a paper on the Prevention of Insanity. After some preliminary remarks he said: "Passing from figures which are confessedly very imperfect, let us consider whether from *a priori* reasoning insanity is likely to be increasing or diminishing among us. By a well-known law of evolution the brain of civilised man increases in complexity as time goes on. The brain of the child, the idiot, or the savage is a simple organ compared with that of civilised nations, and the complexity is such that we do not stand still, but become more and more complex as the environment becomes more complex, as the struggle for life gets more severe. The march of education demands that more shall be learned, and competition on every hand and in every walk and calling perpetually urges men to fresh efforts and new paths of enterprise. Such increased complexity must, as a matter of course, lead to frequent disturbance of the brain and its functions. Can we arrive at any reason for the increase of neurotic affections? Can anything be done to prevent such an increase? The medical profession has laboured long to prevent certain diseases, and with marked success. It has opened the eyes of the laity to the preventable character of many maladies which were the scourge of our land. How does all this care for life and prevention of disease affect our race? One result is that natural selection, which plays so important a part in racial change, is altered in its course in various directions. I have long been of opinion that insanity is to be prevented chiefly by limiting the propagation of this most fearful disease through the union of affected persons. Various questions arise here. First, Who are the persons most likely to cause the disease in their descendants? Secondly, How are such people to be prevented from marrying? These problems come before us not infrequently, and it is often difficult to give answers and reasons which shall be satisfactory to those who consult us. I shall be glad to elicit the opinions of you who are present to-day on this important subject. Mr. Francis Galton, with whose writings on heredity probably most of you are acquainted, tells us in his book on 'Natural Inheritance' that when he issued his inquiries as to the 'Records of Family Faculties' insanity was not specially asked about, as he did not think it wise to put too many disagreeable questions. The difficulty of arriving at any data on the subject is immense. It is not as if insanity, like phthisis or cancer, were a disease which causes death. The deaths from the two latter causes can be tabulated and counted, and the Registrar-General gives the number of deaths occurring in a given time, and can tell us whether the number per million is increasing or diminishing, and in all Mr. Galton's tables the deaths from phthisis are the data which he takes into account; but insanity does not cause death. All that we know is that a certain number of persons are confined as certified lunatics. When they die nine-tenths of them are registered as having died from phthisis, bronchitis, pneumonia, paralysis, or some other bodily disorder. We have in this registration no evidence whatever as to hereditary taint; we have to pick this up as we can, believing or disbelieving what is told us, and thus it comes to pass that one observer puts heredity as markedly observable in 90 per cent. of the insane, while another cannot discover it in more than 25 per cent. Who, then, are the persons most likely to transmit insanity to their descendants? In a discussion on a paper read by Dr. Strahan before the Medico-Psychological

Association in 1890 Sir B. W. Richardson gave it as his opinion that anything like continuous transmission of insanity comes through the male line and not the female. An insane woman may have an insane child; but if the insanity is traced back through the male line some connexion or descent on the male side will be found. 'I take it,' he said, 'that really and truly all taints come from the primitive man—all changes that are hereditary—and that it is impossible to suppose them originating from the woman.' This theory seemed to me most extraordinary and I have searched in vain for any corroboration of it. From my own observation of inherited insanity I should be inclined to adopt the very opposite view and to say that the taint is transmitted through the female rather than the male. It is certain that, if it is transmitted only through the male, the risk of inheriting the disorder must be far less than is generally supposed. Not being able to find any statistics which throw any light on the subject, I applied to Mr. Galton, thinking that his special studies might determine the question. He replied that he was surprised to hear that the female is less likely to transmit insanity than the male and that he did not at all agree with the opinion expressed by Sir B. W. Richardson, for it is very rare that one sex has greater transmissive power than the other. Mr. Galton goes on to complain of all medical statistics, and says that they are incomparably the least trustworthy of any class of data that he has worked with. It is greatly to be wished that some of our psychologists would work out the family history of some of the thousands of patients who are under care and treatment and produce some statistics worthy of reliance. There are various points on which light would be thrown by such data, and conclusions, unexpected and expected, might be arrived at. What are we to say about the marriage of a man or woman who has had an attack of insanity? Such a one had better remain single. It very often happens that the engagement of such a person is itself the exciting cause of the insanity. As soon as the attack passes away, and the patient can be said to be recovered, the friends urge on the marriage, and think that this, if only brought about, will be the sovereign remedy and a sure preventive of all subsequent attacks. Can anything be more extravagant than this hope? Such a proceeding is culpable in the case of a man, but ten times more so when the patient is a woman, probably a young woman whose insanity is not acquired, but inherited, and who, with this inheritance and a previous attack, is doomed to face the excitement of marriage, the tedious discomfort of pregnancy, and the pains and perils of childbirth. Here the danger is to the individual herself, and not merely to the offspring. How many a girl do we see whose health and mind are sacrificed on the altar of marriage, who might have led a happy and useful life if compelled by public opinion and judicious advisers to remain single. The danger of the marriage of such persons is increased tenfold if they are cousins. Besides persons who come of families tainted with insanity and those who have already shown symptoms of the disease before marriage, there is another class who have attacks after they are married. It may be the husband or the wife. The latter may break down after her first or some subsequent confinement; the husband may show signs of the disorder at an early period of their married life. Now, if insanity is to be prevented a woman who has had a puerperal attack ought, for the sake both of herself and of the community in general, to have no more children. Now, Gentlemen, I do not expect that my views on the subject will meet with universal approbation. I shall be told that it is injudicious and inexpedient for medical men to interfere with the relations of the sexes, that it is still more inexpedient to interfere with or limit the number of children. I shall perhaps hear that the strength of the sexual instinct proves that the intentions of the Creator on this subject are unmistakable. I do not suppose that there is any argument that can be brought forward on the other side that I have not heard or read, but I am unconvinced by any of them, and am convinced that the only way to really diminish and finally stamp out insanity is by so educating public opinion that those who have been insane or are threatened with insanity shall in the face of such public opinion abstain from bringing into the world children who must certainly contain in them the potentiality of insanity, who will some of them develop it even if others escape, and so will hand on the heritage from generation to generation till the race dies out. If no insanity appears in the offspring of the first generation we know that it may in the next, according to the law of latency." Dr. Blandford concluded an eloquent address by insisting upon the care to be taken in the physical and mental nurture of the children of those whose family history is tainted. In particular he dwelt on the dangers of over-pressure set up by the system of cramming for examination; on the danger of certain sexual aberrations too often prevalent in our schools; and on the risk to the mental state of the continual irritation that may now and again be set up where a choice of career has been very inaptly made.

PATHOLOGY.

This Section was presided over by Dr. G. SIMS WOODHEAD, Director of the Conjoint Laboratories, London, who called upon Dr. MONCKTON COPEMAN to open a discussion upon:—

The Pathology of Vaccinia.

The results obtained by observers, he said, showed discrepancies. Is vaccinia the same as small-pox or is it quite different? Few deny that vaccination protects from small-pox at least for a period. Taking the experimental work first there were various and contradictory results. Different observers obtained different results by variolation of calves in the first attempt, but after various removes a vesicular eruption had been obtained but in others not. He referred to Klein's work on this matter. His own observations were then briefly described, which had been more fully given in the *Journal of Pathology*. It was possible to variolate the calf, and the results became more definite in successive animals, and these animals were proof against vaccinia. Children have been vaccinated with vaccine derived originally from small-pox. He considered that variola and vaccinia were the same. He then took up the bacteriology of variola and vaccinia. Many organisms have been found and described. Pfeiffer described protozoa, and Ruffer has also demonstrated these. It is conceivable that the bodies in question are the result of epithelial irritation only. He has been able to demonstrate a small bacillus in the early stage especially. If precautions are taken these are present and others absent. Klein had also found this organism in vaccine lymph. This same organism has also been found in the tissues. A similar bacillus is found in variolous lymph at the fifth day, so that there is a presumption that the bacillus is the specific one. This bacillus has not yet been cultivated. In lymph, mixed and kept in glycerine and lanoline, all extraneous organisms die out and no cultures are obtained, while the power of the vaccine increases. He held to the view implied in the term "variola vaccina," used by Jenner.

Dr. S. KENT then gave a lantern demonstration of the changes in the epidermis following upon vaccination. He specially noted the down-growing of the rete Malpighii and the degeneration of its upper layers. He also showed the bacillus in lymph and in sections.

Dr. VOIGT of Hamburg then read a paper on the same subject. He reviewed its history from the experimental side, and showed how great the discrepancies were. He gave the results of his own experiments, and stated that in cows he mainly got a papular eruption, but in one he obtained a vesicle, and from that he had inoculated a number of calves, the one from the other. He referred to instances in which calves had been inoculated with small-pox lymph and from other calves whose lymph was used for human vaccination. He controverted Professor Chauveau's contention of the duality of vaccinia and variola. He had never seen vaccinia contagious from one animal to another save by the lancet. The frequent failures of variola vaccinia required careful consideration.

Dr. RUFFER said that he had readily produced vaccinia in monkeys, but he had not tried variola. He had produced vaccinia in rabbits on the lip. He then criticised Dr. Copeman's statements regarding the protozoa-like structures described in vaccinia pustules, which, he held, were living and parasitic. The cornea was the best place to study them, but he had seen them in different animals; in fact, in all in whom the vaccinia pustule could be produced. He thought that the organism of vaccinia could not be a vegetable one.

Dr. HIME had not succeeded in bringing back vaccinia to variola. He thought there was no doubt of the connexion between the two, and held that Chauveau's observations were out of court. It is not an attenuation, but a transformation.

Surgeon-General CORNISH agreed as to the identity of vaccinia and variola. He referred to Dr. King's experiments in India, and his successful production of vaccine from

variola, and said that over 400,000 people had been vaccinated without any bad results.

Dr. SIMS WOODHEAD was somewhat disappointed that no other side of this subject had been taken up by members present. It was important to note that three persons acting individually and in different places meeting here had all come to the same conclusion that there was a transmutation of variola into vaccinia. It was necessary to be very careful in accepting this special bacillus as it so closely resembled that found in hæmorrhagic septicæmia.

Dr. COPEMAN replied to various points which had been raised. He held that many of the failures in variolating animals were due to adult animals and not calves being used. In the calf the bacillus they had described was found best, in from seventy-two to ninety-six hours. The organism was, he believed, a spore-bearing one, which accounted for the lymph retaining its power after being dried.

Mr. D'ARCY POWER made a communication on the Experimental Investigation into the Causation of Cancer. He undertook this on the presumption that in cancer there was a protozoon, and he tried to communicate the parasite by preparing the soil. He obtained soil from various places which had an evil reputation for cancer. This soil was prepared and pounded, cancer material mixed with it, and this was used as a spray for rats, but no cancer resulted. He inclined to the view that the intra-cellular structures were the result of degeneration, and were not parasitic.

Dr. SURVEYOR read a paper by himself and Dr. BOYCE on the Fungus Foot Disease of India, and showed specimens and growths of the fungus present in the lesions and differences to the organism in actinomycosis.

Dr. HERBERT SNOW read two papers: (1) On Cancer and Phagocytosis, and (2) on Marrow Infection.

LARYNGOLOGY AND OTOLOGY.

Address by the President of the Section.

Dr. P. MCBRIDE, Aural Surgeon and Laryngologist, Royal Infirmary, Edinburgh, Lecturer on Diseases of the Ear and Throat, Edinburgh School of Medicine, at the opening of the Section of Laryngology and Otology delivered the presidential address on the Therapeutics of Diseases of the Nose, Pharynx, and Larynx. He said: "Within the memory of many who have not grown old in the study of throat disease new names have appeared in our nosology. I may, perhaps, mention pharyngomycosis, pharyngeal tuberculosis, and scleroma, all of them comparatively recent additions, although probably not by any means new diseases. Again, physiology has also advanced our knowledge of the innervation of the soft palate. Most of us remember how the presence or absence of paresis of this part was supposed to be an important guide to the exact seat of a lesion on the course of the facial nerve, and now all of us are aware that to the seventh nerve is ascribed little, if any, part in the innervation of the soft palate. Passing now from the pharynx to the larynx, we can still go on tracing the finger-mark of progress. It is a very remarkable fact, but a fact nevertheless, that the subject of pachydermia was first brought into prominence by a pathological anatomist. It is not for me now to introduce controversial matter, and I shall therefore abstain from the tempting topic which is opened by reference to the treatment of tuberculosis. I need not remind you of the important clinical points which have been established, or of the very valuable physiological experiments which have had such an important bearing upon the study of laryngeal paralysis and other neuroses. Again, the nervous affections of the organs to which voice users are liable have been most carefully studied, while that curious condition known as laryngeal vertigo has been described and discussed. Another very interesting and, as far as my knowledge goes, novel nervous affection is the respiratory croaking of infants, which, while accompanied by appearances and signs of distressed breathing, seems rarely to injure the sufferers. Of all the subjects embraced in this Section, rhinology is certainly the newest, and in connexion with it there has been marked literary activity. Of course our means of examination have become improved and our methods of operating have become perfected, but I am not quite certain whether our advances in this branch are as important as those which have been made in connexion with either the throat or the ear. The best method of removing spines and deviations of the septum is still a point which may be said to be *sub judice*. With reference to inflammatory conditions, we have had certain new facts established. Thus, in all probability there exists a purely croupous affection of the nasal mucosa which has been described as fibrinous rhinitis. A very important point to the clinician is the very curious tendency possessed by the anterior and lower part of the cartilaginous septum to undergo certain changes. As you are aware, it is the most common site of hæmorrhage in cases of habitual bleeding from the nose, and it is comparatively common to find here a perforating ulcer, of which it is always difficult and absolutely impossible to trace the history, and which has absolutely no connexion with any dyscrasia. Perhaps among advances in rhinology we should insert the galvano-caustic treatment of hay fever, although even this method yields most uncertain results. Probably one of the most important of clinical novelties has been the recognition of latent empyema of the accessory cavities, more especially the antrum; but it would be anticipating our discussion to say more on the subject at present. I have not so far spoken of nasal reflex neuroses, but there can be no doubt that the establishment of the fact that certain forms of asthma, cough, neuralgia, &c., may be benefited by treatment of the nose has been a most important era in rhinology; only we must always remember that the nasal nerves are only one of the many possible channels of reflex irritation and that the rhinologist cannot afford to leave other possible factors out of account. With regard to the ear, our advances have not been very many; but some of them certainly have been of solid worth. As you are aware, one of the subjects upon which much has been written and asserted is the examination of the ear by exposing it to sounds of different pitch. I do not wish to be controversial, but it appears to me that we must have much larger and much more definite data from morbid anatomy before we can arrive at any dogmatic conclusions with regard to the value of this method in detecting labyrinthine disease. I do not know that we can claim any very important advance with regard to the external ear." Referring to experimental operations, Dr. McBride said that under certain circumstances they might be perfectly justified, but they should not be too much lauded. He continued: "We must scrutinise all work of this kind with a more than usually jealous eye. The man who thus experiments must have already gained a high position, the patient must know the experimental nature of the procedure, and its performance must rest upon a basis of perfect logic. I should feel inclined to go a step further and say that such operations should only be carried out if, *mutatis mutandis*, the operator would have a like procedure practised upon himself. With these restrictions operative experiments may be, and often are, justifiable; without them they become a source of danger to specialists and their patients. The operations to which I have just referred may be considered as somewhat analogous to the exploratory procedures of general surgery. Like the latter, they may be justifiable or the reverse according to the circumstances of the case."

DERMATOLOGY.

Address by the President of the Section.

Dr. ALFRED JAMES HARRISON, Physician to the Bristol General Hospital, delivered an address on the Germ Theory in Dermatology. In the course of his address he said:—"Recent investigations have established more and more the germ sources of many skin affections, and hence, as in modern surgery, most by far of the recently applied remedies have been in the direction of antisepticism. Bacteriology will not account for, will not explain, all phenomena; but look how much light it has thrown upon some forms of eczema, on porrigo contagiosa, boils, carbuncles, erysipelas, acne, lupus, and other skin manifestations. But we must not ride the germ hobby too hard. Common sense must have its leavening power. Practical men in a practical age must not shelter themselves too much behind learned ideas and disquisitions on pathogenic microbes. 'The most sober, most absolute, and most positive science of medicine,' says Lord Salisbury, 'must take a practical view.' I do not remember ever seeing this unilateral disease confined to one cervical or intercostal nerve. Mr. Head,[1] of University College Hospital, has worked out very beautifully the relation between the pain areas in visceral

[1] Brain, 1893.

disease and the distribution of herpes zoster, and it looks promising that before long we shall have this remarkable complaint grounded upon a more scientific basis. But there is one point that must, anyhow at present, remain unsolved. Why should second attacks of zona be so very rare? If we cannot explain the cause and the pathology of such a limited disease as herpes, what shall we say about that widespread and far more common disease, eczema? The causes which give rise to it and the aspects it assumes are so multifarious, and its expression on the integuments is so universal, that it has been well said that the practitioner who can treat eczema most skilfully can treat almost all the diseases the body is liable to. One thing we can assert—and I may ask for the *imprimatur* of this influential gathering on this point—namely, that eczema, however long it may have been established on the body—ten, twenty, thirty, nay, even forty and fifty years—can be cured. There is no case of eczema that does not admit of cure—and, further, without any evil constitutional effects supervening. The question is not one of cure so much as one of time when the cure can be effected, and here comes in the difference between the skill of physicians; the desideratum is, how speedily and easily can the cure be wrought? This subject of eczema is one which is to be considered in our sittings, and therefore I will say no more about it now, beyond expressing this sincere hope that much valuable light may come out of our deliberations. Before concluding, there is one other point I should like to emphasise, and that is rest in the treatment of skin diseases. Much, and very rightly, has been said of late years of rest as a factor in the consideration of the treatment of diseases, whether surgical or medical, and the same good results are obtainable in dermatology. Many skin affections keep the patient confined to bed for a longer or shorter time as a matter of course, but there are many cases of severe eczema and extensive psoriasis which permit patients to be up and about, either because they cannot afford the time to rest or have not the inclination for it; and yet if we confine them to bed for a few days there is often more progress made than arises from weeks of treatment, carried on whilst they follow their usual avocations, wholly or in part. Confine these patients in bed for a while, and the same treatment so far as applications and drugs are concerned—which produced only limited or slow effects—will now act thoroughly and rapidly, and the results are altogether very surprising and satisfactory. Above all is this rest desirable when the nervous system begins to flag and we begin to find broken sleep at night and impaired appetite and faulty digestion during the day. A schoolmaster or mistress gets an attack of eczema or psoriasis at a time when, in these days of educational strain, the nervous system has just about as much as it can bear, and now the skin affection turns the equilibrium the wrong way. Here there is nothing I know of which will bring about a satisfactory cure better than rest—absolute rest in bed for a short period. Rest and judicious treatment are the happiest conditions we can bring to bear. There can be no discrepancy of opinion here. The glory of science has been its capacity to improve the present out of the failings of the past, although we trust our present will be the foundation upon which a glorious future shall be built. Art is constantly putting new remedies within our reach. Let us accept them with great caution, and not recommend them until we are convinced of their utility. It is only in this way that true progress can be obtained and the permanent good of mankind, so far as we are concerned, brought about. To paraphrase a little, remedies ever new are being advertised, most of them have their little day, and then they fade away and cease to be. One word more. We are met here to discuss different views; nay, we have met to differ, but let us trust that the divergencies will be only parts of a great truth—parts, perhaps, a little out of proportion, and sometimes in the wrong place—the red rays where green should be, the violet where ultra-violet would be better. Let it be ours to put them right, and to make them combine and form one harmonious truth. Light, truth, said Plato, is the body of God, and light is His shadow."

The Etiology and Pathology of Lupus.

A paper by Professor LELOIR of Lille on the Etiology and Pathology of Lupus was then read by the Secretary of the Section, Dr. LESLIE ROBERTS, in the unavoidable absence of the writer. Professor Leloir dealt largely with the experimental evidence of the tuberculous nature of lupus, which he claimed as one of the typical forms of tegumentary tuberculosis.

In the discussion which followed Dr. NORMAN WALKER was unable to draw a definite line between lupus and true tuberculosis of the skin. He thought that being varieties of the same disease they should be recognised as such, and that, if varieties are, as he admitted, necessary for clinical purposes, they should be described by definite scientific names, which should describe the pathological nature of the lesion. He recognised two main types: in one the result is the production of numerous cellular tuberculous follicles, and it was clinically the apple-jelly form of Hutchinson. If in this form the nutrition of the surface is interfered with, pyococci find a habitat, and the lupus exedens, or the so-called ulcerative form, is produced. The main change in this case is really a catarrhal one, and the action of the pyococci chemio-tactic. He was convinced that the process was the same in all, and that the varieties were merely varieties produced by mixed infection or the accidents of circumstance.

Dr. HENRY WALDO, of Bristol, said that a feeble circulation and cold extremities rendered subjects susceptible. Unless we accept the tuberculous origin of lupus, we are quite in the dark as to its cause. Kaposi and others who object suggest no other cause. Dr. Waldo had noticed that a phthisical family history is very common, and especially in erythematous lupus. The same structures are present in miliary tubercle, in scrofulous lymph glands, and in lupus the bacillus of Koch is also present in each as well as the giant cells of Schüppel. But lupus does not appear to be hereditary, nor does it affect the general health. It very seldom occurs in scrofulous or phthisical patients, and it only rarely inflames adjoining lymphatic glands.

Dr. UNNA proposed the omission of the term "true tuberculosis" of the skin in contradistinction to "lupus," as the latter is nothing but the common form of tuberculosis of the skin. With reference to the treatment of lupus verrucosus he finds it can be rapidly cured by shaving off with a razor and dressing with sublimate zinc gelatine.

Dr. RADCLIFFE CROCKER remarked on the clinical distinctions of the varieties of tuberculosis of the skin. He treats post-mortem warts by salicylic plaster and acid nitrate of mercury.

Miss DUNBAR, M.D., spoke of a case of lupus which had recovered during an attack of measles.

Dr. WALKER then replied.

DISEASES OF CHILDREN.

Address by the President of the Section.

Dr. W. HOWSHIP DICKINSON, Consulting Physician to St. George's Hospital and to the Hospital for Sick Children, is the President of this Section. In his address on Some of the Characters of Disease in Childhood, which was read by Dr. J. E. SHAW, the Vice-President of this Section, he pointed out that in the period of growth the processes of nutrition were necessarily more active than when the fabric was stationary; the demand being greater and returning at shorter intervals, any failure in supply was more immediately and more severely felt. Dr. Dickinson continued: "Hippocrates expressed this fact in a well-known aphorism to the effect that old persons endure fasting most easily, next adults, young persons not so well, and infants worst of all. Young animals have been shown by experiment to bear starvation worse than older ones; and at the siege of Paris those who suffered most from want of food were the very young, nursing mothers, the sick, and the wounded. At the siege of Lucknow, also, where the privations were great, disproportionately great was the mortality among the children. Dr. Johnson said that he had 'fasted from the Sunday's dinner to the Tuesday's dinner without any inconvenience.'[2] As a child he certainly could not have done this 'without any inconvenience.' Young children and boys and girls are often insufficiently fed; they require more than their elders, and generally get less. 'Send the children to bed and lay the goose to the fire' is a somewhat selfish proverb which indicates the practice of our ancestors." Continuing, Dr. Dickinson said: "The substantial late meal, formerly called supper, now dinner, is perhaps not exactly suited to childhood; but there should be some substitute for it. The fast from, perhaps, a five o'clock tea to the next morning's breakfast is too long. A growing and hungry child may get meat only

[2] Conversation with Edwards; Boswell's Johnson, vol. iii., p. 307.

once a day, while the gouty parent partakes of it three times. The esurient flunkey sometimes has meat five times a day, with accompanying and intermediate beer; how much both would be benefited if each overfed menial were made to relinquish a portion of his meat in favour of some pale-faced child, perhaps an out-patient at the Hospital for Sick Children in this city. The arrangement would be twice blessed, blessing him that gives and him that takes. I have often thought that schoolboys are not fed well enough, and that not from want of means but want of knowledge. Warren Hastings attributed his diminutive stature to this cause; but it is not necessary to go back to the last century for examples of the fault to which I refer. Children in the nursery, beyond the age of infancy, should have a little light food, such as milk or beef-tea, with toast, bread, or biscuit, just before going to bed. Schoolboys, or the like, who dine in the middle of the day, ought to have a little meat by way of supper. Before crossing the imaginary line between physiology and pathology I may touch upon a matter of ancient experience which has received modern illustration; I mean the special need for warmth in infancy. Now we know that babies are not like steel blades—cold does not harden them, but the reverse—and we make literal use of Hunter's parable by the employment of the incubator. With the call for frequent nourishment in childhood there is a corresponding liability to rapid exhaustion from discharge. The apparently disproportionate prostration from loss of blood is one of the peculiarities of infancy, and the quickly fatal effect of diarrhœa is sometimes painfully noticeable. Common as diarrhœa is among infants, it can never be regarded without some anxiety. One of the most painful experiences of medical life is the rapid and unexpected collapse which occasionally takes place from this cause—and that, possibly, when the escape per anum has ceased, and to the uninstructed eye the attack appears to be coming to an end; and so it may be, but not to the end desired. Relatives and nurses may be deceived, but the physician will find warning in the failure of the pulse and the coldness of the extremities. As another instance of the results of discharge in childhood, though of a more chronic nature, suppuration causes lardaceous disease more rapidly at this time of life than afterwards, which organic consequence is at this time more amenable to treatment."

After referring to the injurious effects of alcoholic drinks in childhood, Dr. Dickinson noted that cirrhosis of the liver sometimes followed rapidly upon the exanthemata, much as the corresponding affection of the kidney did. There were other causes of the cirrhosis of childhood, one of which might be syphilis and another rickets, the last being more chronic and less declared than those first mentioned. The lecturer continued: "The cirrhosis of childhood, attended as it is with rapid and profuse cell growth, causes much increase of bulk and furnishes a very convincing proof, if one be still wanting, that the disease is essentially one of growth, not of atrophy. The rapidity of the process in these circumstances has analogies in other disorders of early life. All diseases which consist of overgrowth or cell formation partake at this period of the activity of nutrition which distinguishes youth from age. This is seen with renal fibrosis and in the quick growth of sarcomata. Hypertrophy of the heart as a result of renal disease proceeds the faster the younger the patient. I have often detected cardiac hypertrophy in an unmistakable form within six weeks of the outset of the renal disease which gave rise to it. Such cases in which the cardiac change comes on in young and previously healthy subjects are an obvious and immediate sequence to the renal supply—a sufficiently convincing proof that in them, at least, the renal and the cardiac alterations are directly related as cause and effect. More deaths are attributed to pneumonia in the first five years of life than in any subsequent twenty, and more between five and ten than in any subsequent period of the same length. Lobular pneumonia or capillary bronchitis has especial frequency in early childhood, and perhaps lobar pneumonia, or at least pneumonia with consolidation, is more common than is generally supposed; but this form of pneumonia, however common, is relatively less fatal than afterwards. It is not always easy to distinguish during life true lobar pneumonia from lobular pneumonia with consolidation; but, speaking clinically of pneumonia with consolidation, I may give the following particulars in reference to its mortality in early and later life.[3] I was able to collect from my own experience at St. George's Hospital and the Hospital for Sick Children ninety-one cases of pneumonia from birth to the age of twelve, and eighty-nine of twenty-one years old and upwards. I found that the younger series gave a mortality of 1 in 9, the older series a mortality of 1 in 5. Thus inflammation of the lung appears to be nearly twice as fatal in adult life as in childhood."

Concerning the treatment of pneumonia, Dr. Dickinson said: "We must obviate the tendency to death by cardiac failure and keep the heart going; but there is a vast amount of exudation to be got rid of, possibly pounds, and that is to be removed more by absorption than expectoration. We must see that the vessels are not overloaded and that the exits are free. Of late I have given stimulants less liberally than was once my practice, and I have reverted to the use of mercury, distributing that metal somewhat widely, though with a strict regard to economy. I have been in the habit of giving blue pill, calomel, or grey powder in grain doses, once, twice, or three times a day—not clogged with opium, as used to be the practice, but so as to keep up a little looseness of the bowels. Cautious as I am in drawing conclusions from treatment, I may at least say that I have treated many patients on this plan, and they have done well. Experiment appears to confirm what reason indicates, that where much is to be absorbed it is as well to have regard to the conditions of absorption and not to load the vessels to repletion, wherein is excess, but leave a little room in them for the contents of the air cells."

After dealing with some other diseases of the chest as they affect children, Dr. Dickinson alluded briefly to renal and urinary diseases. Concluding, he said: "Children are more immediately affected by aerial influences, whether good or bad, than are grown people. The greater susceptibility of the young to malaria is well known. I have been told that in that district notorious for ague—Romney Marsh—the children are especial sufferers. Young soldiers more readily succumb to the malarial influences of the tropics than do veterans, and judicious commanders have regard to this in determining the composition of forces destined for specially malarious regions. Children 'in populous city pent' suffer more than their elders and profit more from change. Pure air, and especially sea air, is, as regards the chronic ailments of childhood, our greatest remedy; it is to be regretted that it is not more constantly at our command. It comes nearest to the nature of a panacea. Drugs may do good or harm. Though we believe in the treatment of our own time, we are keen to detect the erroneous practice of our predecessors; so may our successors do for us. The opinions of the faculty are continually shifting; iron may supersede mercury, a thousand nostrums may flourish or may fade; but if there are any eternal truths in medicine one of them must be that fresh air is better than foul, and the breezes of the Atlantic are more salubrious than blasts from the sewers. The air of the North Sea will never cease to bring healing on its wings, or the Bristol Channel to work cures which even the Bristol hospitals cannot accomplish. It is said that charity begins at home, but I have often thought that it is better bestowed on seaside hospitals and country resorts than on institutions where medicine is paramount and the curative influences of nature are wanting. These considerations apply more to the young than to the old. Old persons often do well in cities; they seem to become impervious to their injurious influences. The elderly gentleman who never leaves town if he can help it, and seldom goes further than a walk to his club, may have good health and a rubicund countenance, and insist with truth that no place suits him like London."

[3] Dr. Dickinson noted that he had given some particulars relating to this comparison in a lecture in THE LANCET of Nov. 3rd, 1888.

THE EXHIBITS AT THE TWENTY-SEVENTH ANNUAL MUSEUM.

This year the annual museum of the Association is located in a building admirably suited, as regards space, ventilation, and light, for the display of such goods and apparatus as are likely to be of interest to medical men, in the Drill Hall in the Queen's-road. Some of the firms seem to have been at great pains to make their exhibits as attractive as possible. Few meetings of the Association have seen better organisation and arrangement, and the variety and extent of the exhibition may be in some degree ascertained by the brief notices which we now give.

Prominence is appositely granted to the local chemists and druggists, Messrs. Ferris and Co., whose display at one end of the large hall presents a very imposing appearance,

displaying that firm's therapeutical preparations in all forms. Medical visitors were interested in noticing the special preparations of this firm, which include nepenthe, chloral hydrate syrup, granular and scale preparations, and pills with soluble coating. The compressed tablets and gelatine capsules and preparations of animal extracts are also arranged in exhibition style. Messrs. Ferris's exhibition includes many of the most recently introduced remedies, particulars of which are given in their recent therapeutic notes. A most interesting collection of the opium alkaloids and their salts are shown, amounting to thirty specimens. The growing and cut specimens of the medicinal plants with which the tables are decorated were closely examined by many visitors. Surgical dressings of all kinds are displayed by this firm, and attention is directed to their patent (ever ready) "plaster caddy," which is arranged to carry plasters and dressings, and to protect them from dust. Their instruments present an imposing appearance and include one of Mr. Greig Smith's new surgical operating tables, composed entirely of the finest welded steel tubing. The surface of the table is plate-glass, and is everywhere rounded and absolutely non-absorbent. There is also a good show of aseptic pocket-cases and other forms of surgeon's instruments. Artificial limbs, orthopædic appliances, ambulance boxes, and stretchers for colliery and other accidents form a large portion of the display.

Messrs. Burroughs, Wellcome, and Co. exhibit a large variety of modern pharmaceutical appliances. Their exhibit occupies a large space near the entrance, and the beauty of the pharmaceutical preparations is further enhanced by many interesting botanical specimens of flowers and plants. A specimen of the coca plant showing the hard skeleton stands above a glass case in which are cocaine tabloids derived therefrom. A powder insufflator (B., W. & Co.) is shown with a case of four xylonite tubes adapted for portability. The tubes are easily adjusted in the insufflator, and the powder can be conveniently blown into any part of the nasal and respiratory tract. By a small mechanical addition this instrument can also be adapted for the application of drugs to the uterus. For hospital purposes, where large quantities of powder are required to be in constant use, a contrivance has been arranged which prevents the necessity for frequently charging the tubes. A new preparation of lanoline called boroline is exhibited, consisting of boric acid with lanoline, and by means of a special nasal tube the ointment may be conveniently injected into the nostrils or other mucous cavity. A new dusting powder is exhibited—Emol-Keleet. It will be remembered we pointed out in THE LANCET that this natural product had the power of softening water. Lanoline pine tar soap is for the first time exhibited. A large variety of pocket cases filled with tabloids useful for practitioners—more especially those who live in the country—are also on exhibition, as is a duplicate of Mr. H. M. Stanley's medicine chest which was carried through Darkest Africa. They also exhibit ichthyol ointment and tabloids of ichthyol convenient for internal administration; hazeline and hazeline cream; diuretine and diuretine tabloids; a combination of theobromine with sodium salicylate; loretin, a new antiseptic; and phenosalyl, another antiseptic preparation. This firm have prepared a beautiful souvenir of the meeting, consisting of eight photographic reproductions of the finest scenes in Bristol and the neighbourhood.

The exhibit of Messrs. Oppenheimer, Son, and Co., Limited, this year is interesting. Digestive ferments form no small feature of the display. Pepsins are exhibited ranging greatly in digestive power from the requirements of the Pharmacopœia upwards. It is explained by the firm that in the manufacture of their pepsins this high digestive power is not attained by the usual methods, but by the Webber process, which is acknowledged to be a great advance in the manufacture of digestive ferments. Pepsinum is exhibited in palatinoids of various strengths and in granular and powdered form. The concentrated glycerole extract also has attracted much attention as providing an efficacious solution of this valuable agent. In palatinoids and bipalatinoids they have to some extent reproduced the exhibit which, made by them in Rome, was of such a character as to entitle them to the distinction of the gold medal, they having made a very elaborate display of this form of iron in combination. In the centre of this exhibit a very prominent place has been given to cream of malt, which preparation now, it would seem, is used largely. There is also an exhibition of ergole, a concentrated permanent solution of ergot of rye, claimed to be the most desirable preparation of the drug now offered to the medical profession.

Hartmann's Patent Wood Wool Co. exhibit specimens of their wood wool and accouchement outfits, and also a new patent drainage tube, prepared from catgut, which can be sterilised by immersion in carbolic acid or other sterilising fluid. Improvements in their patent wood wool tissue have been recently effected so as to prevent it forming into hard masses. Messrs. Down Brothers of London have an extensive exhibit of surgical apparatus, including retractors of new design, the "Jordan Lloyd" Automatic Retractor, by Mr. Lloyd of Birmingham; also antrum perforators and models of new hernia needles by Mr. Watson Cheyne and Professor Macewen. In another portion of the building Messrs. Down Brothers exhibit aseptic hospital furniture both for wards and operating theatre. Messrs. S. Kutnow and Co. of London are exhibiting Kutnow's improved effervescing Carlsbad powder, which is a preparation of Carlsbad salt in which the taste of the salt is rendered more pleasant. Kutnow's anti-asthmatic powder and anti asthmatic cigarettes were carefully explained to the medical men present. M. Hoff of Hamburg exhibits samples of malt extract. Horlick's Malted Meat Co. present a sterilised milk food free from starch and cane sugar. One of its qualities consists in the facility with which it can be prepared. The Cerebos Salt Co. of Newcastle-on-Tyne exhibit a form of table salt containing a variety of phosphates, including phosphate of lime. The Frame Food Co. exhibit their various preparations. Messrs. Lorimer and Co. of London exhibit various forms of hypophosphites, and also quantities of Parrish's Food, of which they are one of the principal manufacturers. Another preparation exhibited by this firm is iodised oil, which is said not to stain or burn the skin to which it is applied. They also exhibit Fels' germicide soap, and an interesting preparation in the granular effervescent form of piperazine and hydrochlorate of phenocoll. Mr. A. W. Griffin of Bath exhibits nutritive suppositories the base of which is sterilised albumen and an appreciable amount of peptone. Messrs. Christopher Thomas and Bros. of Bristol exhibit a large number of toilet and disinfectant soaps. Messrs. King, Mendham, and Co. of Bristol exhibit a very important range of medical electrical appliances, including a motor for driving dental drills.

Mr. B. Kühn of London shows specimens of papain prepared in the form of lozenges and pills, also samples of the hypnotic group—exalgine, antinervine, and somnal, which is a preparation of ethylated chloral urethan. This firm also exhibit a mode of administering anæsthetics to the skin by the effect of the warmth of the hand. There is a provision made to increase the effect of the anæsthetic by pulverising the fluid as it escapes from the orifice of the tube and thus applying the antiseptic to a much larger surface at once.

Messrs. Mayer and Meltzer have a splendid exhibit of their surgical instruments, including some of the latest forms and designs of nasal and oral instruments. This firm exhibit Carwardine's saccharometer, the object of which is to facilitate the quantitative estimation of sugar in the urine. The case contains likewise a ureometer and an albuminometer. They also show a small battery for producing an interrupted current from dry cells; it is portable and light.

Messrs. Salamon and Co., Limited, of Essex, have specimens of ether and chloroform, which have been examined and reported upon in THE LANCET of April 9th, 1892. The Woodhall Spa Co. have an interesting exhibit of their bromo-iodine mineral water, found at Woodhall Spa, in Lancashire. A granular effervescent salt has been manufactured from this water, which is also exhibited and presented to the visitors. Messrs. W. Glendenning and Sons of Newcastle-on-Tyne exhibit their beef and malt wine and St. Hermes tannin wine, as well as a form of sparkling table water, Salzbach. In the centre of the exhibition Messrs. J. S. Fry and Son have provided a stall at which samples of their famous concentrated cocoa can be obtained. The Johannis Co., Limited, exhibit their natural table water obtained from their springs at Zollhaus. The Apollinaris Co., Limited, also exhibit their natural mineral water. This firm likewise have an exhibit of Hunyadi Janos and Friedrichshall and the Hungarian aperient waters.

The Domen Belt Co. of London have a very interesting exhibit of corsets and abdominal supports—hernia belts and supports used in cases of prolapsus. They also show a varicose circlet which consists of a steel spring padded with

a glycerine pad which can be applied to the varicosed part. This latter circlet is the invention of Professor Landerer of Leipzig.

Messrs. Frederick Stearns & Co. of Detroit, Mich., U.S.A., have as their main exhibit panjecorine. This agent represents the combined alkaloids of cod-liver oil. They also show this in its crude form as the extractive principles of cod-liver oil, one minim of which represents twenty-five minims of the oil. They likewise exhibit Dike's pepsin, for which they claim a degree of solubility calculated to make it invaluable for dispensing purposes. Stearns' "cascara-aromatic" is the ordinary B.P. fluid extract of cascara, from which the bitter resin has been removed. It has been used extensively, and has been found to act as efficiently as the B.P. preparation.

Messrs. Thos. Christy and Co., of 25, Lime-street, London, exhibit all the intermediary products of analgen, showing its process of manufacture from nitrobenzol until the pure O-æthoxy-anamonobenzoylamidoquinoline is produced. There are eighteen steps in the process, all of which are indicated by different samples. This firm also exhibit a lint backed by a substance which is impermeable to oil, grease, chloroform, or spirit, while it is likewise waterproof.

Messrs. Hertz and Collingwood exhibit their Coca-tonic Champagne and their Champagne-sans-sucre. On the same stall this firm exhibit the following mineral waters: Rosbach Natural Sparkling Table Water, the Franz Josef Water, the Hungarian Palatable Aperient Water, and the Levico, a mineral water containing arsenic and iron.

Messrs. C. J. Hewlett and Sons of London bring into prominence their capsules containing pure creasote, cascara extract, extract of malt, and oil of turpentine, for internal administration in concentrated form. This firm also show a disinfectant fluid containing a large percentage of cresylic acid. They have recently introduced a histological cabinet, presenting, perhaps, objects of greater interest to students than to medical practitioners. They are likewise making a distinctive feature of clinical test solutions for urine analysis and microscopic stains.

Messrs. Brand and Cos.'s specialities for invalids are well represented. Their specialities are principally meat juice by cold expression, essence of beef, concentrated beef-tea, and other concentrated broths, soups, &c.

The products of Mellin's Emulsion Company, Limited, of London, are well represented and are displayed on two stalls in the centre of the room.

Messrs. John Wyeth and Brother of Philadelphia, U.S.A., exhibit their pepsin and other digestive ferment preparations and compressed drugs. The new speciality of this firm is the wine of tar, an expectorant and tonic without opium in any form. Their *pièce de résistance* is their liquid preparation of beef essence, containing the nutritive albuminoid principles in an unaltered and soluble form. The firm exhibit a menthol pencil for application to the skin, arranged in such a way that it can also be used as an inhaler. A complete set of compressed chemicals used in photography are packed in a most compact and portable case.

The Bovril Company exhibit bovril in all its forms and the stages of its preparation; but the principal one which will attract medical men is the Invalid Bovril, as a special preparation prepared exclusively for medical use as a substitute for beef-tea. This form has no seasoning, and, it is stated, contains 6 per cent. more nourishment than the ordinary bovril.

Messrs. Duncan, Flockhart, and Co., of Edinburgh, exhibit their pure chloroform and drugs in soft gelatine capsules. The latest capsule is that recommended by Professor Fraser at the International Medical Congress at Rome, containing bichromate of potash in doses of one-tenth of a grain. This firm also exhibit various animal extracts made up in the form of tablets.

(To be continued.)

THE POSITION OF INFECTIOUS HOSPITALS TOWARDS THE INHABITANTS OF BOROUGHS.—The judgment in the case of the Queen *v.* The Mayor and Corporation of Rawtenstall, which was given on Wednesday last, is one of considerable importance. It has been laid down by the Court that the Corporation were bound to receive in their hospital, and recover payment from them (or, in the case of paupers, from the guardians), all inhabitants of the borough suffering from infectious diseases.

Medical News.

VICTORIA UNIVERSITY: FACULTY OF MEDICINE.—The following candidates passed in July in the subjects indicated:—

First M.B. Examination: Part II., Biology.—D. A. Alexander, University College; D. A. Ashton, Owens College; R. G. Baker, Owens College; J. W. Barber, Yorkshire College; S. W. Battle, Yorkshire College; Roland Beesley, Owens College; J. E. Bolton, Yorkshire College; H. N. Bridge, Owens College; W. H. Broad, University College; A. M. Carmichael, Owens College; H. M. Cockrott, Owens College; John Craig, Owens College; E. C. Dutton, Owens College; R. J. Ewart, University College; H. M. Fletcher, University College; P. A. L. Foulds, Owens College; J. P. H. Greenhalgh, Owens College; Archer Greenwood, Owens College; E. M. Hime, Yorkshire College; J. C. Hindley, Owens College; J. A. Howard, University College; Frederic Hoyle, Owens College; Edmund Hudson, Owens College; E. C. Hulme, Owens College; F. W. Inman, University College; W. G. Kinton, Owens College; J. E. W. McFall, University College; H. H. McNabb, Owens College; A. S. McNeil, Owens College; E. J. Martin, Owens College; R. A. Needham, Owens College; R. S. Nichol, Owens College; Edgar Newhouse, Yorkshire College; J. B. O'Donoghue, Yorkshire College; Harry Osborne, Owens College; Percival Pollard, Yorkshire College; C. E. Preston, Owens College; Sidney Pritchard, Owens College; J. A. Reed, Yorkshire College; W. H. Richardson, Owens College; William Rigby, Owens College; Ambrose Spong, Yorkshire College; W. A. Stott, Yorkshire College; David Taylor, Owens College; Edward Trotter, Yorkshire College; George Unsworth, Owens College; Harry West, University College; R. N. West, Owens College; T. H. Wignall, Owens College; A. G. Wilkins, Owens College; and O. H. Woodcock, Owens College.

Second M.B. Examination: (*a*) *Anatomy and Physiology.*—Edgar Baldwin, Owens College; R. W. Bollans, Yorkshire College; J. B. Clarke, Owens College; Francis Darlow, Yorkshire College; J. W. Dearden, Yorkshire College; W. A. Helm, Owens College; H. M. Henderson, University College; G. R. Howarth, Owens College; A. T. Lakin, Owens College; J. R. Lambert, Owens College; Alfred Lomas, Owens College; Newman Neild, Owens College; Thomas O'Neill, Owens College; A. M. Pilcher, Owens College; W. H. Tomlinson, Owens College.

(*b*) *Materia Medica and Pharmacy.*—F. H. Allen, Owens College; G. P. Barff, University College; W. H. Bateman, Owens College; Tom Bayne, Owens College; Edward Bennett, Owens College; J. W. Bennett, Owens College; Robert Bleasdale, Owens College; William Bradley, Owens College; A. G. S. Broughton, Yorkshire College; H. M. Crake, University College; H. J. Crompton, Owens College; H. R. Cross, Yorkshire College; Herbert Davies, Owens College; J. E. Dutton, University College; Harry Hamer, Owens College; J. E. Healey, Owens College; J. F. Hodgson, Owens College; G. R. Howarth, Owens College; Eustace Hutton, Owens College; K. H. Jones, Owens College; A. T. Lakin, Owens College; E. E. Laslett, University College; Alfred Lomas, Owens College; F. E. Marshall, University College; J. G. Martin, University College; J. H. Mason, Yorkshire College; John Milne, Owens College; H. G. H. Monk, Yorkshire College; John Mooney, Owens College; C. H. Moorhouse, Yorkshire College; A. E. Normington, Owens College; W. F. Oyston, Yorkshire College; G. C. Phipps, Owens College; A. M. Pilcher, Owens College; F. S. Pitt-Taylor, University College; John Prestwich, Owens College; Graham Renshaw, Owens College; J. Steuart Ross, Owens College; S. T. Rowling, Yorkshire College; J. E. H. Scott, Yorkshire College; A. B. Smallman, Owens College; J. E. Smith, University College; Edwin Stott, Owens College; W. H. Tomlinson, Owens College; G. C. Walker, University College; Alfred Wightwick, Owens College; J. H. Willett, University College; Joshua Williamson, Yorkshire College; A. A. Wood, University College; D. S. Wylie, Owens College.

Final M.B. Examination: Part I.—H. E. Annett, University College; T. W. Arnison, Owens College; S. R. Christophers, University College; A. V. Davies, Owens College; William Dyson, Owens College; O. B. Goldschmidt, Owens College; Alfred Greenwood, Owens College; J. P. Hall, Owens College; John Hartley, Owens College; John Hay, University College; F. B. G. Holmes, Owens College; W. A. Kidd, University College; J. P. Lowe, Owens College; J. E. McDougall, University College; D. W. Main, University College; J. T. Marsden, Owens College; T. H. Miller, Owens College; Philip Nelson, University College; G. S. Nickerson, Owens College; J. H. Renshaw, Owens College; T. A. Rothwell, Owens College; W. L. Spink, Yorkshire College; F. J. de C. Veale, University College; B. V. Watkins, Owens College; J. D. Whitaker, Owens College; and H. de C. Woodcock, Yorkshire College.

Part II.—†H. E. Annett, University College; Hubert Armstrong, University College; *S. W. Brook, Owens College; W. C. T. Brown, Owens College; †J. B. Carter, Owens College; †W. W. Clemesha, Owens College; F. H. Day, University College; N. F. Edwards, Owens College; J. W. Hainsworth, Yorkshire College; John Howe, Owens College; Arthur Leigh, Owens College; E. H. L. Lindon, University College; W. E. Livsey, University College; J. E. McDougall, University College; Percy McDougall, Owens College; F. S. Mathwin, Owens College; T. U. Mercer, University College; †Frank Radcliffe, Owens College; †J. H. Ray, Owens College; Stephen J. Ross, University College; †F. C. Scotson, Owens College; S. W. Thomson, Owens College; †O. B. Trumper, Yorkshire College; and F. J. de C. Veale, University College.

* First-class honours. † Second-class honours.

Diplomas in Sanitary Science.—J. H. Crawford, J. H. Crocker, P. G. Garrett, R. M. Littler, Arthur Sellers, W. H. Sharples, and J. B. Wilkinson.

Intermediate B.Sc. Examination.—W. D. Braithwaite, Yorkshire College; A. H. Burtt, Owens College; A. E. Horsfall, Yorkshire College; and Edward Turton, Yorkshire College.

Sanitary Inspection Certificate.—F. H. Cable, Manchester Technical School; J. Kewley, Manchester Technical School; and H. J. Wood, Manchester Technical School.

UNIVERSITY OF GLASGOW.—The following candidates had the degrees named below conferred upon them on July 26th :—

DOCTORS OF MEDICINE (M.D.).

I. WITH COMMENDATION.

Johnston, John M'Cubbin, M.A., M.B., C.M., Scotland.

II. ORDINARY DEGREE.

Alexander, James, M.B., C.M., Scotland.
Gillon, George Gore, M.B., C.M., Ireland.
Johnston, Alexander, M.B., C.M., Scotland.
Macartney, Duncan, M.A., M.B., C.M., Scotland.
Rees, Ferdinand, M.B., C.M., England.
Rees, Oswald, M.B., C.M., England.
Sandilands, John, M.A., M.B., C.M., Scotland.
Stevenson, John, M.B., C.M., Scotland.
Wallace, James Wilson, M.B., C.M., Scotland.

BACHELORS OF MEDICINE AND MASTERS IN SURGERY (M.B., C.M.).

I. HONOURS.

*MacLennan, Alexander, Scotland.
Cook, William Stewart, B.Sc., Scotland.
Young, James Murray, Scotland.
Robertson, James Currie, M.A., B.Sc., Scotland.
Gairdner, John Francis Robert, Scotland.

*Mr. MacLennan gains the Brunton Memorial Prize of £10, awarded to the most distinguished graduate in medicine of the year.

II. HIGH COMMENDATION.

Wilson, James Dunlop Octavus, Scotland.
Gemmill, James Fairlie, M.A., Scotland.
Gilchrist, Marion, Scotland.
Currie, Hugh Brown, Scotland.
Macphail, Alexander, Scotland.
Dick, Archibald Smith, Scotland.

III. COMMENDATION.

Brownlee, John, M.A., Scotland.
Morrison, John, Scotland.
Nairn, Cuthbert, Scotland.
Forrest, Robert Wardrop, Scotland.
Currie, Robert Kirkwood, Scotland.
Macharg, William Edgar, Scotland.
Newell, Alfred George, India.
Salmond, William, Scotland.

IV. ORDINARY DEGREES.

Beatson, David, Scotland.
Blair, David, M.A., Scotland.
Brown, Thomas Douglas, Scotland.
Buchanan, Peter Stedman, Scotland.
Burnett, Edward Napier, Scotland.
Cameron, Alexander, Scotland.
Campbell, Archibald, Scotland.
Carmichael, Henry, Scotland.
Clark, Allan Aiken, India.
Cumming, Alice Lilian Louisa, Scotland.
Dewar, Donald Stewart, Scotland.
Dickson, Robinson Simpson, England.
Drummond, John, Scotland.
Dunlop, John Templeton, Scotland.
Eadie, George Alex., Australia.
Faulds, William Cameron, Scotland.
Ferguson, Daniel, Scotland.
Forbes, Thomas John Lawson, Scotland.
Forsyth, Robert, Scotland.
Fraser, John James, Scotland.
Girvan, Alexander, Scotland.
Glen, David, Scotland.
Grant, Alfred Alexander Cumming, Scotland.
Harrison, Clarence Barrymore, Persia.
Kay, Adam, Scotland.
Masterton, John, Scotland.
Matheson, John Colin, England.
Munro, John, Scotland.
Murray, John, Scotland.
Maclean, Donald, Scotland.
M'Lellan, Archibald Neville, Scotland.
M'Neillie, James Campbell, Scotland.
Nisbet, Hugh Stirling Brown, Scotland.
Pettigrew, James, Scotland.
Powell, Daniel Evans, Wales.
Reid, John, Scotland.
Richmond, Daniel, Ireland.
Scott, Joseph, Scotland.
Shearer, Alexander, Scotland.
Tennent, Robert, Scotland.
White, Robert Nicol, Scotland.
Young, Alexander Grieve, Scotland.

MARINE HYDRO-THERAPEUTIC CONGRESS AT BOULOGNE-SUR-MER.—A congress was held at Boulogne-sur-Mer on July 26th, 27th, and 28th to discuss the treatment of diseases by sea air and sea water. About 130 members attended, and among the French and Belgian medical men present were MM. Verneuil, Letulle, and Leroux. The morning sittings were devoted to papers on the Treatment of Rachitis and Tuberculosis, and to the Indications and Contra-indications for Seaside Treatment. Several papers were read on the Treatment of Naso-pharyngeal Adenomata. M. Verneuil strongly deprecated the resort to surgical interference until medical treatment had failed, and advocated sending such cases to the seaside. The Results of Treatment in Infantile Tuberculosis and in Rachitis were reported by M. Calot of the Rothschild Children's Hospital at Berck, by M. Armangault, the founder of a similar institution at Arcachon, and by M. Leroux. Dr. Aigre, the Mayor of Boulogne, cited cases tending to prove that the influence of sea air did not extend beyond a narrow zone along the coast—say, perhaps, 500 yards. Various subjects were discussed at the afternoon sittings, and amongst them Dr. Philip read a paper on the Climate of Boulogne. The social features consisted of a reception by the Mayor, a ball at the Casino, a lunch given by the Medical Society, and a performance at the theatre of "L'Amour Médecin." Next year a similar congress will take place at Ostend.

THE Secretary of State for India has appointed a graduate of the London School of Medicine for Women, Miss Annette Benson, M.D. Lond., first physician to the Kama Hospital, Bombay, in succession to Mrs. Pechey Phipson, M.D., resigned. Miss Benson has just held an acting appointment as resident medical officer to the Claybury Asylum, under the London County Council.

PRESENTATIONS.—Dr. J. A. Mackenzie of Balham has been presented by the members of the sick clubs with a handsome writing cabinet in silver and oak, bearing a suitable inscription.—An interesting ceremony took place at St. Mary's Hospital Medical School last week, when the staff and students presented Mr. Frederic H. Madden, the school secretary, with an illuminated address and a purse on the occasion of his marriage.—Mr. J. Arnalt Jones, L.R.C.P. Lond., M.R.C.S., Surgeon-Captain, 2nd Volunteer Battalion, the Welsh Regiment, of Aberavon, Port Talbot, has been the recipient of a handsome silver tankard from the members of the Port Talbot Centre of the St. John Ambulance Association, and the bearer section of the aforesaid regiment.

Parliamentary Intelligence.

HOUSE OF COMMONS.

THURSDAY, JULY 26TH.

The White-lead Industry.

REPLYING to Mr. Howard, Mr. Asquith said his attention had been drawn to an inquest held at Greenwich Workhouse on July 19th respecting the body of a girl aged twenty who died from lead poisoning, but it should be added that it was so long ago as December, 1892, that the girl had to leave the factory and was admitted to the infirmary suffering from the effects of lead poisoning, and also that she had phthisical tendencies before she took employment in the factory. He was aware that a sulphate of lead was manufactured and was cheaper and less dangerous than carbonate of lead, but the committee which recently reported on the lead industries stated that they "are compelled to admit the superiority of the carbonate as a pigment both in colour and in covering power." On the report of the committee special rules for the regulation of white-lead works were framed and put in force, and they were now strictly enforced under the supervision of the factory inspectors. These rules had, however, been in force for only a few months, while the lead poisoning in this case occurred more than eighteen months ago, and he had every reason to hope that they would prove effective. He might add that the employment of women in this factory was being gradually discontinued, and the numbers had been reduced from fifty to seventeen.

FRIDAY, JULY 27TH.

The Factory Acts.

In reply to a question by Sir H. Maxwell, the Home Secretary said he had no power to make an order exempting certain industries from some of the provisions of the Factory Acts. The exemption with regard to the Sunday labour of women and boys in connexion with the preparation of fruit for factories from June to September was included in the Factory Act, 1891. With regard to a similar exemption for creameries, Mr. Asquith said he was considering the matter, but he could not order the suspension of the prosecutions now pending against certain creameries in Scotland.

TUESDAY, JULY 31st.

The Army Medical Staff.

Mr. Campbell-Bannerman, replying to Mr. M'Cartan, said that officers of the Army Medical Staff were not required to employ men of their own corps as servants, although they had the privilege of employing them if they so desired. The usual allowance to departmental officers in lieu was issuable. If a soldier of the Medical Staff Corps was employed he must have made up to him the corps pay, which was only issuable by the public when the man was occupied with corps duty. It was not considered desirable to allow soldiers to act as servants to officers of other corps or departments.

IN COMMITTEE.

Food Products Adulteration.

The Select Committee of the House of Commons on Food Products Adulteration resumed their inquiry on Friday, July 27th, Sir Walter Foster presiding.

Professor Long was further examined by the chairman. He expressed himself strongly in favour of branding foreign cheese with an iron stamp, in order that it might easily be distinguished by purchasers. As to British cheese he would not insist on having it branded, but suggested that it would be to the advantage of the farmers if they did brand it. There were two places within the United Kingdom where cheese was made from margarine. The manufacture of this cheese had not led to a diminution in the quality of milk cheese; on the contrary, the competition had brought about an improvement in the quality of both articles. In his previous evidence he had no intention to reflect injuriously upon the chemist who analysed butter and cheese. The

point he desired to establish was that, in order to analyse butter and cheese properly, a man should be specially trained in that branch of analysis. He had himself mixed a quantity of butter and margarine and sent it to two chemists, one of them skilled in analysis of butter and margarine and the other not. The latter returned an analysis of pure butter, and the former gave 75 per cent. of butter and 25 per cent. of foreign fats.

By Mr. Jeffreys: He would have a special department to look after the adulteration of dairy products and see that local authorities did their duty in this connexion. He knew there was a good deal of adulteration by mixing separated and fresh milk, but this was a form of adulteration difficult to detect. The practice could not be stopped unless they raised the standard of fat.

By Mr. Herbert Gardner: Changes occurred in butter when it was kept. Much depended on whether it was made with pure water and whether the curdy matter had been removed. In New York State no foreign substance whatever was allowed in milk, but he would not go so far as that, because he thought preservatives of considerable value and free from injurious influences.

By Sir Mark Stewart: If the Board of Agriculture were to see that all premises where milk was sold were regularly and properly examined, it would confer a great benefit on the community. At present they were supposed to be so examined, but they were not. He could not claim to be an expert in tuberculosis, but he knew that farmers suffered greatly through it. A cow was attacked, but the farmer did not recognise the disease. The animal gradually declined, and it died or was slaughtered. By this time the disease had spread, cow after cow taking it. The farmer was unwilling to kill the cow until the very last. Very often she milked heaviest when ill.

By Mr. Kilbride: The cases of tuberculosis in town dairies were twice as many as those in the country.

By Sir Mark Stewart: Frequent complaint was made as to the leniency of the Somerset House analysts. For example they would accept milk containing 18 or 19 per cent. of water, while other analysts might probably decline to pass 15 per cent. This was one of his reasons for having a fixed standard both for fatty matter and solids. The work performed at Somerset House was too large in its scope. He thought the dairy ought to have a special department with specially trained analysts, and that the same man should not be asked to analyse vinegar and coffee and milk. In this connexion he thought the Board of Agriculture would give satisfaction.

By Mr. Barton: He did not believe that the large quantity of brine introduced into pickled butter was essential to make it keep, but he did believe that it added to the weight of the article.

The Committee met again on Wednesday, Aug. 1st, Sir Walter Foster presiding.

Mr. S. W. Farmer, a dairy farmer in Wiltshire, and a member of the County Council, said he was chiefly engaged in supplying milk to the London market and had sixteen different herds of dairy shorthorns, varying in number from forty to eighty. On an average he supplied daily 1500 gallons to the Aylesbury Dairy Co. in Bayswater. The contract provided that the milk should contain not less than 3·25 per cent. of fat, and he had no difficulty whatever in keeping up to that standard and in going considerably beyond it very often. In his opinion, any herd of properly nourished cows would produce milk containing at least 3 per cent. of fat. When milk was scarce and prices were high large quantities of separated milk came to London. He would regard anything below 3 per cent. as a low standard, and he would rather have no standard at all than a low one, because it would practically legalise adulteration. If 2·50 or 2·75 per cent. were the standard it would be possible to introduce a very considerable quantity of separated milk. Adulteration was at times so remunerative that fines were practically useless as a deterrent, and in his view nothing but imprisonment would meet the case. In order to avoid injustice he would give the accused person an opportunity of appealing to the herd of cows itself to show whether the cows did give the poor milk he claimed they gave.

By Sir Mark Stewart: If margarine were not coloured it could not be sold as butter, and that was what farmers sought.

By Mr. Jeffreys: In times of scarcity and high prices people in London deliberately bought rich milk, in order to water it down or mix it with separated milk. He regarded the mixing of separated milk with fresh milk and the sale of the mixture as fresh milk to be a fraud upon the public, which ought to be dealt with by the authorities. He suggested that the offer of rewards might assist in obtaining convictions, because there must be many people in London who had a hand in the process of mixing. As a farmer he found that if he kept up the standard of fat he had no need to trouble himself much about the percentage of solids not fat.

By Mr. Yerburgh: Beyond all doubt there were certain kinds of food which increased the quantity while they decreased the quality of the milk.

Mr. T. Carrington Smith, of Admaston, Staffordshire, a member of the Margarine Committee of the Central Chamber of Agriculture, gave evidence with regard to several points affecting the agricultural interest. He expressed the opinion that the central authorities should have power to stir up the local authorities to appoint inspectors and otherwise cope with the adulteration of food products. He also expressed the opinion that there should be greater facilities for getting at wholesale dealers in margarine and butter mixtures, and that there should be no colouring of these articles allowed.

Petroleum Acts.

The House of Commons Select Committee appointed to inquire into the working of the Petroleum Acts met again on Friday last, under the presidency of Mr. Mundella.

Mr. A. Spencer, continuing his evidence, said that he had made, since his last examination, a number of experiments suggested by Sir H. Roscoe, and had arrived at the conclusion that the rise of temperature occurring with oil after a lamp had been burning for some time was less when a glass reservoir was used than when a metal reservoir was employed. In the latter case a metal tube round the wick also considerably increased the temperature. With the use of a safety lamp he thought these results had little significance.

Sir H. Roscoe objected to the use of the term "safety lamp" until it had been properly defined.

The Committee then adjourned for the session.

Appointments.

Successful applicants for Vacancies, Secretaries of Public Institutions, and others possessing information suitable for this column, are invited to forward it to THE LANCET *Office, directed to the Sub-Editor, not later than 9 o'clock on the Thursday morning of each week for publication in the next number.*

BATEMAN, H. E., L.R.C.P. Lond., M.R.C.S., has been appointed Honorary Medical Officer to the York Dispensary.

BOTT, WILLIAM, M.R.C.S., has been appointed Medical Officer for Willenhall, Staffs, vice Tildesley.

BROCKBANK, E. M., M.D.Vict., Ch.B. Owen's Coll., has been reappointed Medical Officer of the Royal Infirmary, Manchester.

CLARKE, H. R. S., L.R.C.P. Lond., M.R.C.S., has been appointed Assistant Medical Officer at the Infirmary of the Parish of Birmingham.

DEANE, CHAS. M., M.D. Edin., M.R.C.S. Eng., has been reappointed Health Officer for South Barwon Shire, Victoria, Australia.

DEWHURST, JOHN H., M.B., B.C. Camb., L.R.C.P. Lond., M.R.C.S., has been appointed Medical Officer for the Campden Sanitary District of the Shipton-on-Stour Union.

DICK, JAMES, M.D. Glasg., L.R.C.S., L.M. Edin., has been reappointed Medical Officer of Health for Harrington.

DUFFETT, EDWIN D., L.R.C.P., L.R.C.S Edin., L.F.P.S. Glasg., has been appointed Medical Officer for the Illogan Sanitary District of the Redruth Union.

HEATON, GEORGE, M.A., M.B. Oxon., F.R.C.S., has been appointed Honorary Surgeon to the General Hospital, Birmingham, vice Jolly.

HILL, C. H., M.D. Brux., M.R.C.S., has been appointed Medical Officer for Box, of the Chippenham Union, vice Snow.

JOHNSTON, G. F., M.B. Edin., M.R.C.P. Lond., has been appointed a Physician to the Out-patient Department of the Hospital for Epilepsy and Paralysis, Regent's Park.

MACKENZIE, F. L., M.B., C.M. Edin., has been appointed Medical Officer and Public Vaccinator for Lochwood.

MCGINNESS, JOHN, L.K.Q.C.P., L.R.C.S. Irel., has been appointed Health Officer for Numurkah Shire, Eastern and Central Ridings, Victoria, Australia, vice Harbison, resigned.

MARNOCH, JOHN, M.B., C.M. Aberd., has been appointed Hospital Registrar to the Aberdeen Royal Infirmary and Asylum.

MIDDLETON, W. R. C., M.A., M.B., C.M., D.P.H. Aberd., has been appointed Medical Officer of Health, Singapore, Straits Settlements.

MITCHELL, TRAFFORD, M.D., C.M. Glasg., has been appointed Medical Officer of Health for the Swansea Union Rural Sanitary District, vice Griffiths.

MOORE, WM., M.D., Ch. B. Melb., has been appointed *pro tem.* Examiner in Pathology to the University of Melbourne, Victoria, Australia.

NICHOLLS, ALBERT G., M.A., M.D., C.M. (McGill University, Montreal), has been appointed Resident Physician to the Royal Victoria Hospital, Montreal.

O'DRISCOLL, M., L.R.C.P., L.M., L.R.C.S. Irel., has been appointed Medical Officer for the Union Hall Dispensary District, the Skibbereen Union.

ROLPH, J. WIDMER, M.D. Vic. Univ., Canada, L.R.C.P. Lond., Medical Officer, Pehang Corporation, Lt., has been appointed Honorary Government Medical Officer for Kuantan District, Pehang, Malay Peninsula.

SCOTT, G. MELMOTH, M.B., B.C. Cantab., has been appointed Medical Officer to the St. Peter's District of the Maldon Union, vice E. P. Gutteridge, resigned.

SHILLITO, W. A., M.R.C.S., has been appointed Medical Officer of Health for the Wilsden Sanitary District, vice Eden.

WARD, STANLEY E., L.R.C.P. Lond., M.R.C.S., L.S.A., has been appointed Medical Officer to the Sevenoaks Union Workhouse.

WARRY, J. KING, M.D. Lond., D.P.H. Eng., has been appointed Medical Officer of Health, Hackney.

WILLIAMS, HERBERT, M.D. Lond., D.P.H. Cantab., M.D. State Med., Lond. Univ., has been appointed Medical Officer to the Isolation Hospital of the Port of London Sanitary Authority at Denton, Gravesend.

WILSON, GEO. R., M.B., C.M. Edin., has been appointed Medical Superintendent to the Mavisbank Asylum, Lasswade, vice King.

WILSON, S. WESLEY, L.R.C.P., L.R.C.S. Irel., has been appointed House Surgeon to Dorset County Hospital, Dorchester.

WILSON, S. W., L.R.C.P., L.M., L.R.C.S. Irel., has been appointed House Surgeon to the Dorset County Hospital.

Vacancies.

For further information regarding each vacancy reference should be made to the advertisement (see Index).

BURGH OF LEITH.—Medical Officer of Health. Salary to commence at £350 a year. Applications to the Town Clerk, Town Clerk's Office, Leith.

CENTRAL LONDON OPHTHALMIC HOSPITAL, 238, Gray's-inn-road, W.C.—House Surgeon. Rooms, coals, and light provided.

CUMBERLAND INFIRMARY, Carlisle.—House Surgeon for one year. Salary £70 per annum, with board, lodging, and washing.

EVANGELICAL PROTESTANT DEACONESSES' INSTITUTION AND HOSPITAL, Tottenham, N. — Junior House Surgeon. Salary £40, with board, &c.

HANTS COUNTY ASYLUM.—Third Assistant Medical Officer, unmarried. Salary £100 per annum, increasing up to £125 after twelve months' service, with furnished apartments, board, washing, and attendance. Applications to the Committee of Visitors, Knowle, Fareham.

LIVERPOOL INFIRMARY FOR CHILDREN.—Assistant House Surgeon for six months. Board and lodging provided.

PARISH OF ST. MARYLEBONE.—Assistant Medical Officer at the Infirmary, Ladbroke-grove-road, Notting Hill, unmarried. Salary £130 per annum, with furnished apartments, rations, and washing. Applications to the Clerk to the Guardians, Guardians' Offices, Northumberland-street.

RUBERY HILL ASYLUM, Bromsgrove, Worcester.—Clinical Assistant.

ST. LUKE'S HOSPITAL, London, E.C.—Clinical Assistant for six months. Board and residence provided.

SWANSEA HOSPITAL. — Resident Medical Officer. Salary £100 per annum, with board, furnished apartments, coals, gas, laundress, and attendance.

WESTERN GENERAL DISPENSARY, Marylebone, N.W.—Junior House Surgeon, unmarried. Salary £50 a year, with board and lodging.

Births, Marriages, and Deaths.

BIRTHS.

FOSTER.—On July 29th, at Cambridge, the wife of Michael George Foster, M.B., M.R.C.S., L.R.C.P., of a daughter.

KING.—On July 26th, at Nicholas-street, Chester, the wife of Henry W. King, M.D., of a son.

TAIT.—On July 27th, at Sunnyside-road, Hornsey-lane, N., the wife of Henry Brewer Tait, F.R.C.S., of a son.

MARRIAGES.

ANDERSON—INNES.—On July 31st, at the Parish Church, Merton, Hugh Kerr Anderson, M.B., son of James Anderson, Frognal-park, Hampstead, to Jessie Mina Innes, daughter of the late Surgeon-General Francis William Innes, M.D., C.B.

FORSYTHE—BOULTON.—On July 25th, at St. Pancras Church, Anderson Forsythe, A.B., M.D., to Maria H. Boulton (Dolly), only child of the late Edward and Hannah Boulton, of St. Paul's-road, Camden-town.

GARDENER—CARR.—On Wednesday, July 25th, at the Abbey Church, Waltham Abbey, by the Rev. F. B. Johnston, M.A., Vicar, and the Rev. J. H. Stamp, A.K.C., William F. Gardener, L.R.C.S. Lond., M.R.C.S. Eng., of Darley House, Sydenham, eldest son of Mr. W. Gardener, Harold House, Waltham Cross, to Susie, eldest daughter of Mr. James Carr, The Hollies, Waltham Abbey.

GILKES—BROUGHTON.—On July 25th, at Preston Parish Church, Brighton, Ernest Osmond Gilkes, M.R.C.S., of Stamford-avenue, Brighton, to Amy Lilian Broughton, granddaughter of the late Francis Broughton, of Springcroft, Preston, Brighton.

SLADER—HARVEY.—On July 24th, at the Parish Church, Bromley, Kent, George W. Burgess Slader, L.R.C.S. and L.M. Irel., of Gainsboro', Lincs., to Lucy Florence Mary, eldest daughter of Charles Harvey, of Ivonhurst, Bromley, Kent.

THOMAS—MOSELY.—On July 24th, at the Parish Church of St. Mary, Caterham, Edward George Thomas, M.B., C.M. Edin., eldest son of the late Rev. E. T. W. Thomas, Vicar of St. Mark's, Gloucester, to Alice Louisa, younger daughter of the late Alfred Mosely, of London.

WADDY—WHITCOMBE.—On July 24th, at Llanaber (Barmouth) Parish Church, Henry Edward Waddy, L.R.C.P. Lond., M.R.C.S., of Gloucester, to Ethelinda Helen, youngest daughter of George Whitcombe, of Tuffley Knoll, Gloucester.

DEATHS.

DICK.—On July 28th, at Ventnor-villas, West Brighton, William Dick, M.D., late Inspector-General of Hospitals.

HARE.—On July 30th, at Darlington, Frederic John Hare, B.Sc., M.B., C.M. Edin., aged 24 years.

HUTCHINSON.—On July 27th, at Apsley-villas, Acton, Dr. Arthur Cayley Hutchinson.

JAY.—On July 27th, at Cedar-villas, West Hampstead Edward Jay, M.R.C.S., late of Park-street, Grosvenor-square, in his 81st year.

JONES.—On July 24th, in London, Thomas Jones, M.R.C.S., &c., late of Bath, aged 41.

LOVELL.—On July 29th, accidentally drowned at Cookham, Charles Petre Lovell, M.A., M.B., M.R.C.P., of Porchester-square, Hyde-park.

MILLER.—On July 26th, at Purawurlie, Henley-on-Thames, Andrew Miller, M.D., of Rosslyn-hill, Hampstead.

N.B.—A fee of 5s. is charged for the Insertion of Notices of Births, Marriages, and Deaths.

METEOROLOGICAL READINGS.

(Taken daily at 8.30 a.m. by Steward's Instruments.)

THE LANCET Office, Aug. 2nd, 1894.

Date.	Barometer reduced to Sea Level and 32° F.	Direction of Wind.	Dry Bulb.	Wet Bulb	Solar Radia in Vacuo.	Maximum Temp. Shade.	Min. Temp	Rainfall.	Remarks at 8.30 A.M.
July 27	29·96	S.W.	62	59	115	78	56	...	Hazy
,, 28	30·07	S.E.	67	61	118	78	59	...	Hazy
,, 29	30·01	S.E.	73	66	104	76	62	...	Cloudy
,, 30	29·93	N.E.	60	59	106	70	59	0·18	Cloudy
,, 31	30·00	N.E.	64	60	111	78	60	...	Overcast
Aug. 1	29·89	S.W.	63	60	96	68	60	...	Overcast
,, 2	29·70	S.W.	64	59	83	66	59	...	Overcast

Notes, Short Comments & Answers to Correspondents.

EDITORIAL NOTICE.

IT is most important that communications relating to the Editorial business of THE LANCET should be addressed *exclusively* "TO THE EDITORS," and not in any case to any gentleman who may be supposed to be connected with the Editorial staff. It is urgently necessary that attention be given to this notice.

It is especially requested that early intelligence of local events having a medical interest, or which it is desirable to bring under the notice of the profession, may be sent direct to this Office.

Lectures, original articles, and reports should be written on one side only of the paper.

Letters, whether intended for insertion or for private information, must be authenticated by the names and addresses of their writers, not necessarily for publication.

We cannot prescribe or recommend practitioners.

Local papers containing reports or news paragraphs should be marked and addressed "To the Sub-Editor."

Letters relating to the publication, sale and advertising departments of THE LANCET *should be addressed "To the Publisher."*

We cannot undertake to return MSS. not used.

PUBLISHER'S NOTICE.

IN order to facilitate the work of reference to the volumes of THE LANCET, we have arranged to publish duplicate copies of the Index to each half-yearly volume in a form in which they may be subsequently filed or bound together. Those of our subscribers who may wish to be supplied with loose copies can obtain the same (without extra charge) on making application to the Publisher of THE LANCET.

"THE TRANSPORT OF CASES OF INFECTIOUS DISEASE."

Viator Medicus writes:—"With reference to your correspondent's letter last week under the above heading, may I be allowed to say that I believe the chairman of the Metropolitan Asylums Board resides in a leading thoroughfare in Kensington, and that it would be interesting to learn whether the procession of which your correspondent complains passed also down that street. I certainly think the matter is one deserving of notice, and that it should receive attention from the Asylums Board. It is a gruesome idea—a procession of vehicles conveying infectious cases—and I trust your correspondent will not rest until he is satisfied that the authorities have made inquiries into the occurrence."

X.—We think our correspondent is quite right in declining to give a certificate if he is not satisfied as to the cause of death. If our correspondent reports to the coroner, and he is prepared to take all responsibility, there can be no blame resting on him if he gives a modified certificate, stating simply that he knows no reason showing that the death was not from natural causes. Still, such a practice is unsatisfactory. Our correspondent cannot be compelled to give a certificate as to his "belief" if he has not such belief.

MEDICAL ATTENDANTS AND THEIR THEOLOGICAL BELIEFS.

A LAY CORRESPONDENT writes to us on the above subject with a sense of grievance. He had a friend and a former *employé* dying of phthisis. Visiting him one day, he met the medical attendant, who asked him if he spoke to his friend on doctrinal and theological subjects. Our correspondent replied in the negative. He was then asked by the medical man as to his belief in certain tenets. The reply being considered unsatisfactory, the next day, at his visit, the practitioner told the anxious mother that he would discontinue his attendance if that friend were admitted again to the house. The mother insisted on her right and her son's to choose their own friends. The poor patient was much disturbed. The dilemma so created was solved by the removal of the patient to the undogmatical world. We are asked by our correspondent for an authoritative expression of opinion on the action of the medical man. We have no authority over the conscience or the creed of medical men. Still, the question raised by our correspondent is a fair one, and has not now been raised for the first time. The religious mind in a medical man is seemly and becoming; but to obtrude dogmatic beliefs in the name of religion, not only on a patient but on his friends and visitors, and to make certain beliefs in them a condition of his medical attendance, is to push medical influence beyond all legitimate limits. We agree with our correspondent that such conduct constitutes a grievance. A time of sickness and death is not the time for disturbing a patient's mind with dogmatic theology, and there is no excuse for it either in the traditions of the profession or the authority of Scripture—regarded with that broad intelligence which we have a right to expect in medical men.

Mr. Chas. J. Elwin.—We cannot refer to any legal case in point; but it is altogether unreasonable to think that a fee for an attendance on an ordinary case of midwifery is to cover attendance on any complications that may ensue. And the complications in this case were of an anxious and exacting nature.

Mr. Arthur Brinckman is thanked for his communication.

"ON THE TREATMENT OF DIPHTHERIA."

To the Editors of THE LANCET.

SIRS,—From my own observation the following treatment (suggested by an army surgeon who is a personal friend of mine of more than thirty years' standing) has been most successful in my hands; and, having regard to the mortality from this dire malady, I venture to send the prescription for the benefit of humanity:—℞ Carbolic acid, turpentine, and liquor ferri perchloridi, equal parts; glycerine, two parts. Mix and shake well before applying, as the ingredients divide on standing. This "paint" should be applied daily, once only. It is a good thing to paint externally along the ramus of the jaw at the same time, and to administer internally iron, chlorate of potassium, and glycerine, with a mild mercurial purge to begin with. This treatment has done me most excellent service.

I am, Sirs, your obedient servant,

July 31st, 1894. DULWICH.

Luz.—The report is not a public document, and we cannot well comment on it unless we see it in public form. We note the inaccuracies kindly pointed out by our correspondent in respect of Questions 3 and 4. A hospital committee, however, is not without responsibility in keeping such a case in its wards without the concurrence of the sanitary authorities. We notice the personal element in the whole controversy, and regret it. It should be eliminated on both sides. We do not mean by anything we have said to imply that our correspondent is to forego his right of perfectly independent judgment in the matter of notification and the time of it: every general practitioner has the sole responsibility. At the same time he is acting in a public capacity, and is open to public criticism. When a public authority interferes with him or wishes him to consult with its own officer it should do so with full recognition of the practitioner's independence and every condition of courtesy, which we think were wanting in this case.

R. K. (St. James's-st.).—We do not recommend individual practitioners.

"THE GRIFFITHS FUND."

AT Swansea on Monday last Dr. Griffiths was presented with the results of the fund raised by the profession and of a similar fund raised by his lay friends and patients. Congratulatory speeches were delivered by Lord Swansea, Sir John Williams, Bart., M.D., and others.

Mr. J. Macgregor.—By French law a diploma in medicine from one of the recognised French medical schools is necessary. The old diploma of Officier de Santé is now abolished, and our correspondent cannot be advised to attempt to practise without keeping in touch with French law.

THE "BLUE-GLASS CURE."

THE *Times* of the 1st inst. records the death of General A. J. Pleasonton at Philadelphia on Saturday last. He entered the United States Army in 1826. The deceased officer will chiefly be remembered by his labours and experiments in connexion with the influence of coloured rays upon animal and vegetable life, which led to his alleged discovery of the "blue-glass cure," which became a fashionable belief and "fad" for a time with many people on both sides of the Atlantic. General Pleasonton published a book and various papers on the subject that excited some enthusiasm for a short time, which quickly died out, however, and the "blue-glass cure" was relegated, like many another so-called "cure," to the region of unregretted failures.

MEDICAL ADVERTISING IN INVERURIE.

THE author of the following notice in the *Aberdeen Free Press* is probably not conscious of anything wrong in it; but it is not to be commended.

"*Card—Inverurie.*—P. Rough, M.A. (Nat. Sci. Honours), M.B., C.M., has commenced to practise his profession as Physician and Surgeon. West High-street, Inverurie, July 17th, 1894."

COMMUNICATIONS not noticed in our present issue will receive attention in our next.

Medical Diary for the ensuing Week.

OPERATIONS.

METROPOLITAN HOSPITALS.

MONDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), St. George's (1 P.M.), St. Mark's (2 P.M.), Chelsea (2 P.M.), Samaritan (Gynecological, by Physicians, 2 P.M.), Soho-square (2 P.M.), Royal Orthopædic (2 P.M.).

TUESDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), Guy's (1.30 P.M.), St. Thomas's (3.30 P.M.), Westminster (2 P.M.), West London (2.30 P.M.), University College (2 P.M.), St. George's (1 P.M.), St. Mary's (1.30 P.M.), St. Mark's (2.30 P.M.), Cancer (2 P.M.).

WEDNESDAY.—St. Bartholomew's (1.30 P.M.), University College (2 P.M.), Royal Free (2 P.M.), Middlesex (1.30 P.M.), Charing-cross (3 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), Gt. Northern Central (2.30 P.M.), King's College (2 P.M.), National Orthopædic (10 A.M.), St. Peter's (2 P.M.), Samaritan (2.30 P.M.), Gt. Ormond-street (9.30 A.M.).

THURSDAY.—St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), University College (2 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), London (2 P.M.), King's College (2 P.M.), Middlesex (2 P.M.), Chelsea (2 P.M.), Soho-square (2 P.M.), North West London (2 P.M.).

FRIDAY.—London (2 P.M.), St. Bartholomew's (1.30 P.M.), St. Thomas's (3.30 P.M.), Guy's (1.30 P.M.), Charing-cross (3 P.M.), St. George's (1 P.M.), King's College (2 P.M.), Cancer (2 P.M.).

SATURDAY.—Royal Free (9 A.M. and 2 P.M.), Middlesex (1.30 P.M.), St. Thomas's (2 P.M.), London (2 P.M.), University College (9.15 A.M.) Charing-cross (3 P.M.), St. George's (1 P.M.), Cancer (2 P.M.).

At the Royal Eye Hospital (2 P.M.), the Royal London Ophthalmic (10 A.M.), the Royal Westminster Ophthalmic (1.30 P.M.), and the Central London Ophthalmic Hospitals operations are performed daily.

During the week marked copies of the following newspapers have been received:—*Birmingham Argus, Daily Chronicle, New York Herald, Nottingham Guardian, Northampton Mercury, Glasgow Echo, Morning Leader, Southampton Echo, Heywood News, Morning Advertiser, Western Daily Press, Invention, Christian Leader, City Press, Sanitary Record, Hertfordshire Mercury, Weekly Free Press and Aberdeen Herald, West Middlesex Standard, Reading Mercury, Local Government Chronicle, West Middlesex Advertiser, Glasgow Herald, Liverpool Courier, Surrey Advertiser, Local Government Journal, Yorkshire Post, Times of India, Bristol Mercury, Pioneer Mail, Sunday Times, Liverpool Daily Post, Leeds Mercury, Courrier de la Presse, Builder, Scotsman, Architect, Galignani Messenger, Tunbridge Wells Advertiser, Newry Standard, St. Helens Advertiser, Building News, Essex County Chronicle, Spen Valley Times, Derby Reporter, Darlington Echo, Hastings News, Warwick and Warwickshire Advertiser, Australian Medical Journal, Kenilworth Advertiser, Berwick Counties Gazette, Kelso Mail, Falkirk Herald, Blackpool Times, Cumberland Pacquet, Loughborough Herald, Arbroath Herald, Liverpool Echo, The Senate, Wisbech Standard, Provincial Medical Journal, Monmouthshire Beacon, &c. &c.*

Communications, Letters &c. have been received from—

A.—Mr. R. B. Anderson, London; Messrs. Armour and Co., London; Messrs. Atkinson and Philipson, Newcastle-on-Tyne; A. D. S., Leeds.

B.—Dr. J. S. Bristowe, London; Mr. E. Stanmore Bishop, Manchester; Mr. G. Vere Benson, London; Mr. C. Birchall, Liverpool; Mr. W. Barber, London; Messrs. Black and Co., London; Messrs. Blackie and Son, London.

C.—Prof. Charteris, Glasgow; Mr. C. Candler, Melbourne; Mr. J. Carter, London; Messrs. Carnrick and Co., London; Messrs. Clifford and Co., Birmingham; Chorlton Union, Clerk of; Cumberland Infirmary, Carlisle, Secretary of; Catholic University Medical School, Dublin, Secretary of; Conifer, Manningtree.

D.—Dr. R. Daniel, London; Dr. J. W. Dalgliesh, Bloemfontein, O.F.S., South Africa; Dr. R. R. Davidson, Halifax; Miss C. D'Orsey, London; Miss M. E. Docwra, Kelvedon; Messrs. Down Bros., London; Durrant's Press Cutting Agency, London; Department of the Interior, Washington, U.S.A., Secretary of; Deutsches Verlagshaus, Bong and Co., Berlin; Dowlais Ironworks, Glamorgan; Deaconesses' Institute, London, Director of; District Medical Officer, A; Doctor, London.

E.—Sir Peter Eade, Norwich; Mr. C. J. Elwin, London.

F.—Dr. H. Finlay, Townsville, Queensland; French Congress of Domestic Medicine, Secretary of; F. S., London; F.R.C.S.E.

G.—Dr. W. Gayton, London; Dr. J. F. Gillett, Eastleigh; Dr. A. D. Geoghegan, Pulborough; Mr. J. A. Galloway, Glasgow; Mr. F. Goodrich, Methwold; Gloucester General Infirmary, Secretary of; Gynæcologist.

H.—Dr. G. W. Hutchison, Chipping Norton; Dr. Bertram Hunt, Munich; Mr. J. Heywood, Manchester; Mr. T. Hope, Liverpool; Mr. Hanley, London; Messrs. Hirschfeld Bros., London; Hants County Asylum, Clerk of; High School for the Oral Education of the Deaf, Northampton, Secretary of.

I.—Iota, London.

J.—Sir George Johnson, London; Jeyes' Sanitary Compounds Co., Limited, Secretary of.

K.—Dr. J. Keser, London; Messrs. Kilner Bros., London.

L.—Dr. J. F. Little, London; Dr. J. A. Lowson, Hong-Kong; Mr. P. R. Lowe, London; Mr. Hugh Lane, Bath; Mr. W. Lawley, London; Mr. H. K. Lewis, London; Rev. A. Le Geyt, Trefuvis; Messrs. Lever Bros., Ltd., London; London and Yorkshire Bank, Limited, Secretary of; Leith, Town Clerk of.

M.—Dr. S. Rutherford Macphail, Derby; Dr. J. M. McCully, London; Mr. R. Mosse, London; Mr. W. F. Mack, Bristol; Mr. R. S. Miller, Windsor; Mr. L. Mackay, Pitlochry; Mr. W. F. Mason, Manchester; Mr. F. C. Mears, North Shields; Mr. G. Michelmore, Tiverton; Mr. W. Mawer, London; Messrs. Macmillan and Co., London; Messrs. Mitchell & Co., London; Metropolitan Hospital Sunday Fund, Secretary of.

N.—Mr. George Newnes, Bristol.

O.—Messrs. Oliver and Boyd, Edinburgh.

P.—Dr. J. A. Philip, Boulogne-sur-Mer; Dr. A. G. Phear, London; Mr. D'Arcy Power, London; Mr. Frederick Page, Newcastle; Mr. H. Potter, Ilkestone; Mr. F. W. Pilkington, Adlington; Messrs. Parke, Davis and Co., London; Peat Industries Syndicate, Limited, Secretary of; Practitioner.

R.—Sir B. W. Richardson, London; Dr. J. M. Rhodes, Manchester; Mr. Leslie Revill, London; Messrs. Reiniger, Gebber and Schall, Erlanger, Germany.

S.—Dr. W. Ramsay Smith, Plas Newydd, Rhyl; Dr. A. E. Spohn, Texas; Mr. J. J. Stack, London; Mr. C. L. Sansom, London; Mr. H. Smith, Newcastle-on-Tyne; Mr. R. Steele, Liverpool; Messrs. Street Bros., London; Messrs. F. Stearns and Co., London; Messrs. Street and Co., London; Sanitas Co., London; Swansea Hospital, Secretary of.

T.—Dr. W. Bolton Tomson, Luton; Dr. Charles Bell Taylor, Nottingham; Messrs. B. Thomas and Co., Ferndale.

U.—University of Edinburgh, Secretary of.

W.—Dr. Wm. Whitelaw, Kirkintilloch; Mr. W. S. West, London; Mr. H. Williams, Epsom; Messrs. Warrick Bros., London; Messrs. A. and J. Warren, Bristol.

Y.—Surgeon-Captain M. T. Yarr, Windsor.

Letters, each with enclosure, are also acknowledged from—

A.—Dr. E. Allen, Hawes; Messrs. Atkinson and Conder, Knottingley; Anglo-Swiss Condensed Milk Co., London; Alpha, London.

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